

## CURRICULUM VITAE

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**Title** Dr. Chemical Engineer/Principal Researcher  
**Organization** Chemical Process Engineering Research Institute (CPERI)/Center for Research and Technology Hellas (CERTH)  
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### Higher Education Level

1986: Diploma Chemical Engineering, University of Thessaloniki, GREECE  
1991: Ph.D., Department of Chemical Engineering, University of Thessaloniki, GREECE  
1993-1995: Postdoctoral CPERI  
1996-1999: Researcher D'  
2000-2003 Associate Researcher  
2004- Principal researcher

### Most Relevant Expertise

Key Words: Catalytic Reaction Engineering, Fuel processing, Refining Processing, Fluid Catalytic Cracking, Hydrogenation, Refining Catalyst Evaluation, Biomass Thermochemical Conversion Processes- Pyrolysis, Gasification-, Flue Gas Treatment, Production of biofuels, Biodiesel

### Experience, qualification and expertise for the Last Five Years

1. Researcher, Chemical Process Engineering Research Institute
2. Head of CPERI's Laboratory of Environmental Fuels and Hydrocarbons, CPERI quality manager (ISO 9002)
3. Participation as researcher in 9 EU sponsored Programs, 8 National research Programs, 12 Industry sponsored projects
4. Teaching assistant in Department of Chemical Engineering University of Thessaloniki, Scientific responsible for 3 PhD thesis and 16 diploma thesis works
5. Responsible for Biomass research studies and biofuels research activities
6. Responsible for FCC catalyst evaluation studies in MAT and FCC pilot plant. Responsible for DeSOx/DeNOx additive evaluation studies

### Publications in International Scientific Journals (refereed)

1. A.A. Lappas, I.A. Vasalos, "Evaluation and Kinetic Modeling of Greek Lignites", Fuel, 68, 1243, 1989
2. A.A. Lappas, D. Papavasiliou, K. Batos, I.A. Vasalos, "Product Distribution and Kinetics from Greek Lignite Pyrolysis", Fuel, 69(10): 1304-1308 1990
3. A.A. Zabaniotou, A.A. Lappas, N. Kousidis, "Flash Pyrolysis of Greek Lignite in a Captive sample Reactor", Journal of Analytical and Applied pyrolysis, 21(3), 293-304, 1991
4. Vasalos I.A., A.A. Lappas, D.K. Iatridis, S.S. Voutetakis, "Design Construction and Experimental Results of a Circulating Fluid Bed FCC Pilot Plant, Fluidization IV, Beijing China, 1996
5. S.S. Voutetakis A.A. Lappas, D.K. Iatridis I.A. Vasalos, "Computer application and software development for the automation of a fluid catalytic cracking pilot plant-experimental results", Computers & Chemical Engineering, Volume 20, Issue 972, Pages 1601-1606, 26 May 1996,
6. A.A. Lappas, D.K. Patiaka, B.D. Dimitriadis and I.A. Vasalos, "Separation Characterization and Catalytic Cracking kinetics of Aromatic Fractions obtained from FCC Feedstocks", Applied Catalysis: A General, 152, 7-26, 1997
7. A.A. Lappas, D.K. Patiaka, D. Ikonomou and I.A. Vasalos. "Separation and Characterization of Paraffins and Naphthenes from an FCC Feedstock", Ind.Eng.Chem.Res., 36, 8, 3110-3115, 1997

8. Dimitriadis V.D., A.A.Lappas and I.A.Vasalos, "Kinetics of combustion of carbon in carbonaceous deposits on zeolite catalysts for FCCU. Comparison between Pt and non Pt- containing catalysts", *Fuel J.*, Vol. 77:14, No.12 pp. 1377-1383, 1998
9. Lappas A.A., D.K. Iatridis and I.A. Vasalos, "Production of reformulated gasoline in the FCC", *Catalysis Today*, 50, 73-85, 1999
10. A.A.Lappas, K. Drakaki, I.A.Vasalos, "Production of low aromatics and low sulfur diesel in the HDS pilot plant of CPERI", *Global Nest*, Vol.1, 1999
11. A.A. Lappas, Z.Tsagrasouli, I.A.Vasalos and A.Humphries, "Effect of Catalyst Properties and Feedstock Composition on the Evaluation of Cracking Catalysts", *Stud. Surf. Sci. Catal.* 134: 71-86, 2001, *Fluid Catalytic Cracking V: Materials and Technological Innovations*, Editors Occelli/O'Connor, Elsevier
12. Ch. Kordulis, A.A. Lappas, Ch. Fountzoula, K. Drakaki, A. Lycourghiotis, and I.A. Vasalos, "NiW/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Catalysts Prepared by Modified Equilibrium Deposition Filtration (MEDF) and Non-Dry Impregnation (NDI): Characterization and Catalytic Activity Evaluation for the Production of Low Sulfur Gasoline in a HDS Pilot Plant", *Appl.Catalysis A: General*, 209, 85-95, 2001
13. A.A. Lappas, L. Nalbandian, D.K. Iatridis, S.S. Voutetakis, I.A. Vasalos, "Effect of Metals Poisoning on FCC Products Yields. Studies in an FCC Short Contact Time Pilot Plant Unit", *Cat.Today*. Vol.65, pp 233-240, 2001
14. E.A. Efthimiadis, A.A. Lappas, D.K. Iatrides and I.A. Vasalos, "Selective Catalytic Reduction of NO<sub>x</sub> by Hydrocarbons/Oxygenates. Application for the Control of NO<sub>x</sub> from the Regenerator of an FCC Pilot Plant Unit", *Ind. Eng. Res. Dev.*, 40, 2001.
15. E.S. Kikkinides, A.A. Lappas, A. Nalbandian and I.A. Vasalos. "Correlation of reactor performance with catalyst structural changes during coke formation in FCC processes" *Chemical Engineering Science*, Volume 57, Issue 6, March 2002, Pages 1011-1025
16. Lappas, A.A., Triantafillidis, C.S., Tsagrasouli, Z.A., Tsiatouras, V.A., Vasalos, I.A., Evmiridis, N.P. "Development of New ZSM-5 Catalyst-additives in the Fluid Catalytic Cracking Process for the Maximization of Gaseous Alkenes Yield", *Studies in Surface Science and Catalysis* 142, 807-814 (2002)
17. Lappas, A.A., Samolada M.C., Voutetakis S.S., Iatridis D.K. and I. A. Vasalos, "Biomass Pyrolysis in a Circulating fluid bed reactor for the production of fuels and chemicals", *Fuel* 81 (2002), 2087-2095
18. Efthimiadis EA, Iliopoulou EF, Lappas A.A., Iatridis D.K. and I. A. Vasalos. "NO reduction studies in the FCC process. Evaluation of NO reduction additives for FCCU in bench- and pilot plant-scale reactors", *Ind Eng Chem Res* 41 (22): 5401-5409 Oct 30, 2002
19. Bollas GM, Vasalos IA, Lappas A.A., Iatridis D.K. "Modeling small-diameter FCC riser reactors. A hydrodynamic and kinetic approach", *Ind. Eng. Chem. Res.* 41 (22): 5410-5419 Oct 30 2002
20. G.M. Bollas, S. Papadokonstantakis, J. Michalopoulos, G. Arampatzis, A.A. Lappas, I.A. Vasalos and A. Lygeros, "Using Hybrid Neural Networks in Scaling Up an FCC Model from a Pilot to an Industrial Unit", *Chemical Engineering and Processing*, Volume 42, Issues 8-9, August-September 2003, Pages 697-713
21. Lappas A.A., J.A. Valla, I.A. Vasalos, C. Kuehler, J. Francis, P.O' Connor N.J. Gudde, "The effect of catalyst properties on the in-situ reduction of Sulfur in FCC gasoline", *Applied Catalysis A: General*, Volume 262, Issue 1, 10 May 2004, Pages 31-41
22. Bollas, G. M.; Vasalos, I. A.; Lappas, A. A.; Iatridis, D. K.; Tsioni, G. K.; Bulk Molecular Characterization Approach for the Simulation of FCC Feedstocks, *IND ENG CHEM RES* 43 (13): 3270-3281 JUN 23 2004
23. Bollas GM, Papadokonstantakis S, Michalopoulos, Arampatzis G, Lappas AA, Vasalos IA, Lygeros A J, et al. A computer-aided tool for the simulation and optimization of the combined HDS-FCC processes, *CHEM ENG RES DES* 82 (A7): 881-894 JUL 2004
24. Valla JA, Lappas AA, Vasalos IA, C. Kuehler, N.J. Gudde; Feed and process effects on the in situ reduction of sulfur in FCC gasoline, *APPL CATAL A-GEN* 276 (1-2): 75-87 NOV 25 2004
25. Iliopoulou EF, Efthimiadis EA, Lappas A.A., Iatridis DK, Vasalos IA et al., Development and evaluation of Ir-based catalytic additives for the reduction of NO emissions from the regenerator of a fluid catalytic cracking unit, *IND ENG CHEM RES* 43 (23): 7476-7483 NOV 10 2004

26. Triantafyllidis KS, Lappas AA, Vasalos IA, et al. Gas-oil cracking activity and product selectivity of the hydrothermally-stable mesoporous aluminosilicates (MSU-S) assembled from zeolite seeds STUD SURF SCI CATAL 154: 2853-2860 Part A-C 2004
27. L.M.Fletcher, D.K.Iatridis, A.N.Katsanevakis, A.A.Lappas, O.Monachos, M.Pourkashanian, A.Williams. Optimizing Ceramic Kiln Operation Utilising Industrial Gas Turbine Exhaust Gases”, Technologies and Combustion for a Clean Environment. International Journal on Energy for a Clean Environment, Vol. 5, i3, 2004
28. Lappas AA, Iatridis D.K., Vasalos I.A., Rhemann H., Schwarz, Lonka, S.Heinonen P., Spyridaki G., Psychogios Y. Reducing FCCU NOx emissions. Petroleum Technology Quarterly 1 2005, 59
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30. Valla JA, Lappas AA, Vasalos IA Catalytic cracking of thiophene and benzothiophene: Mechanism and kinetics APPL CATAL A-GEN 297 (1): 90-101 JAN 4 2006
31. E.Antonakou, A.Lappas, M. Nilsen, A.Bouzga and M.Stöcker, “Evaluation of various types of Al-MCM-41 materials as catalysts in biomass pyrolysis for the production of bio-fuels and chemicals”, FUEL 85 (2006) 2202-2212
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33. K.S. Triantafyllidis, A.A. Lappas, I.A. Vasalos, Y. Liu, H. Wang and T.J. Pinnavaia. “Gas-oil cracking activity of hydrothermally stable aluminosilicate mesostructures (MSU-S) assembled from zeolite seeds: Effect of the type of framework structure and porosity”, Catalysis Today, Volume 112, Issues 1-4, 15 March 2006, Pages 33-36
34. K.Triantafyllidis, E.Iliopoulou, E.Antonakou, A.Lappas and T.Pinnavaia “Hydrothermally-stable mesoporous alumino-silicates (MSU-S) assembled from zeolite seeds as catalysts for biomass pyrolysis”, Microporous & Mesoporous Materials, 99, 132-139, 2007
35. E. Antonakou, V.Dimitropoulos, A.Lappas “Production and Characterisation of Bio-oil From Catalytic Biomass Pyrolysis”, Thermal Science Journal, Volume 10, Issue 14, 2006
36. G. M. Bollas, I. A. Vasalos, A. A. Lappas, D. K. Iatridis, S. S Voutetakis, and S. A. Papadopoulou ‘Integrated FCC Riser - Regenerator Dynamics studied in a Fluid Catalytic Cracking Pilot Plant" Chem. Eng. Science 62, 1887, 2007
37. A. A. Lappas, M. Papapetrou, I. A. Vasalos. “Catalytic Cracking to Liquids (BTL) Fuels with Novel Cracking Catalysts, Studies in Surface Science and Catalysis, Fluid Catalytic Cracking VII, Materials, Methods and Process Innovations, 166, 2007
38. G. M. Bollas, I. A. Vasalos, A. A. Lappas, D. K. Iatridis, ‘Five-Lump Kinetic Model with Selective Catalyst Deactivation for the Prediction of the Product Selectivity in the Fluid Catalytic Cracking Process", Catalysis Today 127 (1-4): 31-43 Sep 30 2007
39. D.S. Achilias, Ch. Roupakias, P. Megalokonomos, A. Lappas, E. Antonakou, Chemical Recycling Techniques of Plastic Wastes Made from Polyethylene (LDPE and HDPE) and Polypropylene (PP), Journal of Hazardous Materials 149 (2007) 536-542.
40. Merete Hellner Nilsen, Eleni Antonakou, Aud Bouzga, Angelos Lappas, Karina Mathisenc, Michael Stöcker Investigation of the effect of metal sites in Me-Al-MCM-41 (Me=Fe, Cu or Zn) on the catalytic behavior during the pyrolysis of wooden based biomass, Microporous& Mesoporous Materials, 105 (1-2): 189-203 SEP 15 2007
41. A.C.Psarras, E.F. Iliopoulou, L. Nalbandian, A.A. Lappas, C. Pouwels, Study of the accessibility effect on the irreversible deactivation of FCC catalysts from contaminant heavy feed metals, Catalysis Today 127 (1-4): 44-53 Sep 30 2007
42. J.A.Valla, E. E. Mouriki, A. A. Lappas, I. A. Vasalos, The effect of heavy aromatic sulfur compounds on sulfur in cracked naphtha, Catalysis Today 127 (1-4): 92-98 Sep 30 2007

43. E.Iliopoulou, E.Antonakou, S.Karakoulia, A.Lappas, I.Vasalos, K.Triantafyllidis “Catalytic pyrolysis of biomass by mesoporous materials: Effect of steam stability and acidity of Al-MCM-41 catalysts” *Chemical Engineering Journal* 134, 51-57, 2007
44. D.Achilias, I.Kanelopoulou, P.Megalokonomou, E.Antonakou and A.Lappas “Chemical recycling of polystyrene by pyrolysis. Potential use of the liquid product for the reproduction of polymer”, *Macromolecular Materials and Engineering* 292 (8): 923-934 Aug 9 2007
45. A.A.Lappas, V.Dimitropoulos, E. Antonakou, S. Voutetakis and I. Vasalos ‘Design, construction and operation of a transported fluid bed pilot plant unit for biomass fast pyrolysis: The effect of pyrolysis temperature and feedstock’ *Ind. Eng. Chem. Res.*; (Article); 2008; 47(3); 742-747.
46. Ioannidou, A. Zabaniotou, E.V. Antonakou, K.M. Papazisi, A.A. Lappas and C. Athanassiou. “Investigating the potential for energy, fuel, materials and chemicals production from corn residues (cobs and stalks) by non-catalytic and catalytic pyrolysis in two reactor configurations”. *Renewable and Sustainable Energy Reviews*, In Press, Available online 6 February 2008
47. Achilias DS, Antonakou E, Roupakias C, Megalokonomos P, Lappas A “Recycling techniques of polyolefins from plastic wastes” *GLOBAL NEST JOURNAL* 10 (1): 114-122 MAR 2008
48. Zabaniotou A, Ioannidou O, Antonakou E, Lappas A. “Experimental study of pyrolysis for potential energy, hydrogen and carbon material production from lignocellulosic biomass” *Source: INTERNATIONAL JOURNAL OF HYDROGEN ENERGY* 33 (10): 2433-2444 MAY 2008
49. A.C. Psarras, E.F. Iliopoulou, K. Kostaras, A.A. Lappas and C. Pouwels “Investigation of advanced laboratory deactivation techniques of FCC catalysts via FTIR acidity studies” *Microporous and Mesoporous Materials* 120: 141–146 2009.
50. A.A Lappas, S. Bezergianni, I.A. Vasalos “Production of Biofuels via Co-processing in Conventional Refining Processes” *Catalysis Today* 145: 55–62 2009.
51. D.H. Park, S.S. Kim, H.Wang, T.J. Pinnavaia, M.C. Papapetrou, A.A. Lappas and K.S. Triantafyllidis “Selective Petroleum Refining Over a Zeolite Catalyst with Small Intracrystal Mesopores” *Angewandte Chemie* 121: 1 – 5 2009.

#### **Publications in International Conference Proceedings**

1. Lappas A.A., I.A. Vasalos, “A Fluid Bed System for Process Evaluation”, AIChE Annual Meeting, Washington DC, December 1988
2. Lappas A.A., I.A.Vasalos, “Greek Lignite Pyrolysis”, International Conference on Pyrolysis and Gasification, EEC, Luxembourg, May 23-25, 1989
3. A.A.Lappas, D.K.Iatridis and I.A.Vasalos, “Production of Reformulated Gasoline in the FCC unit:” 3rd International Conference in Protection and Restoration of the Environment III, Xania Krete Greece, 25-28 August 1996
4. A.A.Lappas, D.K.Iatridis and I.A.Vasalos, “Production of Reformulated Gasoline in the FCC Unit. Effect of Feedstock Type on Gasoline Composition”, 214 ACS meeting, Las Vegas, September 1997
5. A.A.Lappas, K.Drakaki, I.A.Vasalos, X.Kordoulis, X.Fountsoula, A.Likourgiotis, “Production of low sulfur gasoline in an HDS pilot plant using two NiW/Al<sub>2</sub>O<sub>3</sub> catalysts”, 4rd International Conference in Protection and Restoration of the Environment III, Sani, Greece, July 1998
6. A.A.Lappas, K. Drakaki, I.A.Vasalos, “Production of low aromatics and low sulfur diesel in the HDS pilot plant of CPERI”, 4rd International Conference in Protection and Restoration of the Environment IV, Sani Greece, July 1998
7. A.A.Lappas, Z.Tsagrasouli, I.A.Vasalos, “Effect of Catalyst Properties and Feedstock Composition on the Evaluation of Cracking Catalysts”, American Chemical Society, The Advances in Fluid Catalytic Cracking, N. Orleans, LA August 22-26, 1999
8. A.A.Lappas, D.K.Iatridis, S.S. Voutetakis and I.A.Vasalos, “Effect of Metals Poisoning on FCC Product yields. Studies in an FCC SCT Pilot Plant Unit”, Europacat IV, Rimini 5-10 September 1999
9. I.A.Vasalos and A.A.Lappas, “Effect of Catalyst Feedstock Interactions on Laboratory Evaluation Procedures of FCC Catalysts”, 9<sup>th</sup> Annual Saudi-japanese International Symposium, King Fahd University, Dhahran Saudi arabia, 28 Nov 1999

10. Lappas A.A., Iatridis D.K, Voutetakis S.S., Samolada M.C. and I. A. Vasalos, "Catalytic biomass pyrolysis in a circulating fluid bed reactor for the production of fuels and chemicals", Topical Conf. Proc. "Energy and the Environment", AIChE Annual Meeting, Nov. 12-17, 2000, LA, CA, USA, p382-386.
11. Lappas A.A., Iatridis D.K, and I.A. Vasalos, "Propylene maximization in a FCC pilot plant unit using ZSM-5 additive", AIChE Annual Meeting, Nov. 12-17, 2000, LA, CA, USA.
12. Lappas, A.A., Samolada M.C., Voutetakis S.S., Iatridis D.K., I.A. Vasalos, "Catalytic Biomass Pyrolysis: A promising approach for the conversion of biomass to fuels and chemicals", Proc. 1st World Conf. and Exhibition on Biomass for Energy and Industry, 5-9 June, 2000, Sevilla, Spain.
13. A.A. Lappas, Z.A. Tsagrasouli, S.S. Voutetakis I.A. Vasalos, "FCC catalyst evaluation in a short contact time MAT unit" Proc. 2nd International Conference of the Chemical Societies of the South-Eastern European Countries, Halkidiki Greece, 2000
14. A.A.Lappas, S.S.Voutetakis, D.K.Iatridis, I.A.Vasalos, "Interaction between catalyst Accessibility, riser design and feedstock properties on FCC products", 2<sup>nd</sup> Bi-annual Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean (EMCC-2), Ankara Turkey, May 20-24, 2001
15. A.A.Lappas, S.S.Voutetakis, I.A.Vasalos, "Petrocat Services for the laboratory of Enironmental fuels and hydrocarbons of CPERI", 2<sup>nd</sup> Bi-annual Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean (EMCC-2), Ankara Turkey, May 20-24, 2001
16. A.A.Lappas, S.S.Voutetakis, D.K.Iatridis, I.A.Vasalos, "Tracking the perormance of FCC catalysts from the laboratory to the commercial units", Conference "European Catalysts Meets China" ACHEMASIA/DECHEMA, Beijing China, May 7-12, 2001
17. L.M. Fletcher, D.K.Iatridis, A.N.Katsanevakis, A.A.Lappas, O.Monachos, M. Pourkashanian, A.Williams, " A New Approach to Optimize Ceramic Kiln Operation Utilising Industrial Gas Turbine Exhaust Gases", Technologies and Combustion for a Clean Environment, International Clean air Conference, Oporto, Portugal, pp.1175-1184, July, 2001
18. Voutetakis, S.S., Lappas A.A., Ziogou, C.O., Vasalos I.A., "A virtual petroleum refinery catalyst evaluation laboratory", AIChE 2002 Spring Meeting, March 10-14, New Orleans, LA, USA, 2002
19. A. A. Lappas, J. Valla, I. A. Vasalos, C. Kuehler, J.Francis and P.O'Connor N. J. Guddy, "Studies on Sulfur reduction in FCC gasoline", ACS meeting, Petroleum Chemistry Division, Orlando FL, 47(1), 50, 2002
20. A. A. Lappas, S. S. Voutetakis, and I. A. Vasalos, "Refinery Benefits through a Virtual Catalyst Evaluation Laboratory", Grace Davison FCC Technology Conference, Dublin, Ireland June 11-14, 2002
21. S. Papadokonstantakis, G.M. Bollas, J. Michalopoulos, A.A. Lappas, I.A. Vasalos and A. Lygeros, "Applying Fundamental and Neural Networks Theories in the Modeling of a Commercial FCC Unit", 15th International Congress of Chemical and Process Engineering – CHISA 2002, Praha, Czech Republic, 25-29 August 2002, vol. 4.
22. A. A. Lappas, E.S. Kikkinides, S.S.Voutetakis, D. K. Iatrides, I.A.Vasalos, "Interaction between catalyst accessibility, riser design and feedstock properties on FCC products", ISCRE 17, August 2002, Hong Kong
23. A.A.Lappas, J.Valla, I.A.Vasalos "Catalyst and feedstock effects for in-situ sulfur reduction in FCC gasoline" 3rd Bi-annual Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean (EMCC-3), Chalkidiki Greece, May, 2003
24. I.A.Vasalos, A.A.Lappas, "Bridging fossil fuels to the Hydrogen Economy" II International Conference on Ecological Protection of the Planet Earth, Bio-Environment and Bio-Culture. Sofia Bulgaria, June 6 2003
25. G. M. Bollas, A. A. Lappas, D. K. Iatridis and I. A. Vasalos, "An Integrated Riser-Regenerator Model for the Simulation of Pilot and Commercial FCC Units" 4th European Congress of Chemical Engineering, Granada Spain 21-25 September 2003
26. J. Michalopoulos, G. M. Bollas, S. Papadokonstantakis, A. A. Lappas, G. Arampatzis, I. A. Vasalos, and A. Lygeros, " Modeling and optimization of the combined HDS and FCC processes with a computer-aided tool" 4th European Congress of Chemical Engineering, Granada Spain 21-25 September 2003
27. Triantafyllidis K.S., Lappas AA, Vasalos I.A., Liu Y and Pinnavaia T.J. Gas–Oil Cracking activity and product selectivity of the Hydrothermally Stable Mesoporous Aluminosilicates (MSU-S) assembled from Zeolite seeds. 14th International Zeolite Conference, Cape town, South Africa, 25-30 April 2004

28. M.Christianopoulou, V. Valla, P.D. Akrivos, G. Tsioni, A. Lappas, A. Kourounaki. "Spectroscopic study of new multinuclear triorganotin compounds", XXIst International Conference on Organometallic Chemistry, Vancouver, Canada July 25-30, 2004
29. A.A.Lappas, I.A.Vasalos, "Independent catalyst and additive testing by CPERI. Case studies: Evaluation FCC catalysts, NOx & SOx additives" SCOPE 2004 Conference, Florence June 2004
30. A.A.Lappas, I.A.Vasalos, "DeNox from Industrial Processes" III International Conference on Ecological Protection of the Planet Earth, Bio-Environment and Bio-Culture. Instabul Turkey, June 6 2005
31. G.M. Bollas, S.A. Papadopoulou, A.A. Lappas, S.S. Voutetakis, I.A. Vasalos Dynamic Simulation and Optimization of the fluid catalytic cracking process. Application to the pilot plant of CPERI, Kos, 2005
32. GM Bollas, AA Lappas, DK Iatridis, and IA Vasalos "Development of a six lump model with selective catalyst deactivation for the prediction of FCC product distribution, based on pilot plant data", 7th World Congress of Chemical Engineering, Glasgow Scotland 10-14 July 2005.
33. A.A. Lappas, V.S. Dimitropoulos, E. Antonakou, S.S. Voutetakis, and I.A. Vasalos, "Design Construction and Experimental Results of a Circulating Fluid Bed Pilot plant for Biomass Pyrolysis", 7th World Congress of Chemical Engineering, Glasgow Scotland 10-14 July 2005.
34. C. Athanasiou, E. Antonakou, A. Lappas and A. Zabanioutou "Realizing Full Potential of Biomass Thermochemical Conversion and Solid Oxide Fuel Cells" Integrational International Hydrogen Energy Congress and Exhibition, Istanbul, Turkey, 13 - 15 July 2005
35. E. Antonakou, V.Dimitropoulos, A.Lappas "Production and Characterisation of Bio-oil From Catalytic Biomass Pyrolysis" International Symposium Moving Towards Zero Emissions Plants, Leptokarya, Greece, 20-22 June 2005
36. A.A. Lappas, S.S. Voutetakis, N. Drakaki, M. Papapetrou and I.A. Vasalos. "Production of Transportation Biofuels through Mild-Hydrocracking and catalytic cracking of waxes produced from Biomass to Liquids (BTL) Process", 14th European Biomass Conference, Paris France, 17-21 October 2005
37. C. Athanasiou, A. Zabaniotou and E. Antonakou, A. Lappas "Realizing Biomass Full Potential: Hydrogen and Electrical Energy in Fuel Cells" 14th European Biomass Conference, Paris France, 17-21 October 2005
38. 4. E. Vakouftsi, C. Athanasiou, A. Zabaniotou, E. Antonakou, A. Lappas "The conjunction of biomass thermochemical conversion with Solid Oxide Fuel Cells (SOFC)" 7th European Gasification Conference, Barcelona, Spain, 22 – 25 May 2006
39. Achilias, I.Kanelopoulou, P.Megalokonomou, E.Antonakou and A.Lappas "Chemical Recycling of Polystyrene" Protection and Restoration of the Environment VIII, Chania, Greece, 3-7 July, 2006
40. D.S. Achilias, Ch. Roupakias, P. Megalokonomos, A. Lappas, E. Antonakou, Chemical Recycling Techniques of Plastic Wastes Made from Polyethylene (LDPE and HDPE) and Polypropylene, Protection and Restoration of the Environment VIII, Chania, Greece, 3-7 July, 2006
41. E.Iliopoulou, E.Antonakou, V.Komvokis, A.Lappas, K.Triantafyllidis "Catalytic Pyrolysis of Biomass towards the Production of Biofuels and Fine Chemicals" Protection and Restoration of the Environment VIII, Chania, Greece, 3-7 July, 2006.
42. E.Iliopoulou, E.Antonakou, S.Karakoulia, A.Lappas, I.Vasalos, K.Triantafyllidis "Catalytic pyrolysis of biomass by mesoporous materials: Effect of steam stability and acidity of Al-MCM-41 catalysts"presented in Post-Symposium "Catalytic Processing of Renewable Sources: Fuel, Energy, Chemicals" XVII International Conference on Chemical Reactors CHEMREACTOR-17, Athens-Crete, 15-19 May, 2006
43. K.Triantafyllidis, E.Iliopoulou, E.Antonakou, A.Lappas, H. Yang, T. Pinnavaia "Nanostructured mesoporous aluminosilicates as catalysts for the production of fuels and chemicals via biomass pyrolysis" 3rd Workshop on Nanosciences & Nanotechnologies - NN06, Thessaloniki, Greece, 10-12 July 2006
44. K.S.Triantafyllidis, E.F.Iliopoulou, E.V.Antonakou, A.A.Lappas, T.J. Pinnavaia "Hydrothermally-stable mesoporous alumino-silicates (MSU-S) assembled from zeolite seeds as catalysts for biomass pyrolysis" 1st International Workshop on IN-Situ Study and DEvelopment of Processes Involving PORous Solids, La Grande Motte, France, 19-23/3, 2006
45. A. A. Lappas, I. A. Vasalos. "Catalytic Cracking to Liquids (BTL) Fuels with Novel Cracking Catalysts, 232 ACS Annual Meeting, September 2006 S.Francisco USA

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47. George M. Bollas, Simira A. Papadopoulou, Angelos A. Lappas, Spyros S. Voutetakis, Panos Seferlis, and Iacovos A. Vasalos. Application of a Model Predictive Control Strategy on a Fluid Catalytic Cracking Pilot Plant, AIChE meeting San Francisco 2006
48. A. C. Psarras, E.F. Iliopoulou and A.A. Lappas. Advanced Characterization Techniques for the Study of the Feed Contaminant Metal Effects on different Accessibility FCC Catalysts, 3rd International Workshop INSIDE-POReS (IN-Situ Study and DEvelopment of Processes Involving PORous Solids): “New challenges for nanoporous materials”, 24-26/9/2007) Alicante, Spain, p111.
49. A.A. Lappas, D.K.Iatridis, I.A.Vasalos. Production of Liquid Biofuels in a Fluid Catalytic Cracking Pilot Plant Unit Using Waxes Produced from a BtL Process. 17<sup>th</sup> ERTC Conference, Barcelona Nov 19-21, 2007
50. K.G. Papazisi, E.F. Iliopoulou, K.S. Triantafyllidis, A.A. Lappas. Upgrading of bio-oils derived from pyrolysis of lignocellulosic biomass using various catalytic materials. 1st International Conference on the Origin of Electrochemical Promotion Of Catalysis OREPOC, 01-05/10/2007, Thessaloniki, Greece, p47.
51. E.F. Iliopoulou, K.S. Triantafyllidis, A.A. Lappas. Catalytic pyrolysis of biomass towards the production of biofuels and fine chemicals, 8th European Congress on Catalysis, 26-31/08/2007, Turku/Åbo, Finland, p265.
52. A.C. Psarras, E.F. Iliopoulou, A.A. Lappas, I.A. Vasalos and C. Pouwels. Advanced Characterization Techniques for the Study of Effects of the Feed Contaminant Metals on FCC Catalysts SCOPE 2007 Catalyst Symposium, 17-20/6/2007, Athens, Greece.
53. C.L.M. Joyal, M.J. Westby, A.A.Lappas, D.K.Iatridis, I.A.Vasalos Pilot Plant Evaluation of FCCU Catalyst Technology and Use of Data for Commercial Catalyst Applications NPRA March 2008, San Diego USA
54. Nanostructured micro- and mesoporous materials for the catalytic pyrolysis of biomass towards the production of fuels & chemicals Eleni F. Iliopoulou, Angelos A. Lappas and Kostas S. Triantafyllidis, 1st International Workshop NAPEN 2008, “NAnoPorous materials in ENergy and ENvironment”, 12-15/10/2008, Chania, Crete, Greece.
55. Catalytic pyrolysis of biomass for the production of alternative fuels and chemicals: Effects of catalyst’s acidity E.F. Iliopoulou, K. Papazisi, A.A. Lappas and K.S. Triantafyllidis, 5th International Conference on Environmental Catalysis, 21/08-3/9/2008 Belfast, p170
56. A. C. Psarras, E.F. Iliopoulou and A.A. Lappas ACCESSIBILITY - ACIDITY FTIR STUDIES OF COMMERCIALY AND ARTIFICIALLY DEACTIVATED FCC CATALYSTS Poster presentation in XL Annual Polish Conference on Catalysis: "Catalysis for Society" in Krakow 11-15 May 2008

#### **Presentations in International Conference Proceedings**

1. SCOPE 2004 Conference, Florence June 2004  
“Independent catalyst and additive testing by CPERI. Case studies: Evaluation FCC catalysts, NOx & SOx additives”
2. International Conference on Ecological Protection of the Planet Earth, Bio-Environment and Bio-Culture. Instabul Turkey, June 6 2005 “DeNOx from Industrial Processes”
3. 7<sup>th</sup> World Congress of Chemical Engineering, Glasgow Scotland 10-14 July 2005.  
“Development of a six lump model with selective catalyst deactivation for the prediction of FCC product distribution, based on pilot plant data”
4. 7<sup>th</sup> World Congress of Chemical Engineering, Glasgow Scotland 10-14 July 2005.  
“Design Construction and Experimental Results of a Circulating Fluid Bed Pilot plant for Biomass Pyrolysis”
5. 14<sup>th</sup> European Biomass Conference, Paris France, 17-21 October 2005  
“Production of Transportation Biofuels through Mild-Hydrocracking and catalytic cracking of waxes produced from Biomass to Liquids (BTL) Process”
6. 232 ACS Annual Meeting, September 2006 S.Francisco USA  
“Catalytic Cracking to Liquids (BTL) Fuels with Novel Cracking Catalysts”
7. 17th European Refining Technology Conference, November 2007, Barcelona Spain  
“Production of Liquid Biofuels in a Fluid Catalytic Cracking Pilot Plant Unit Using Waxes Produced from a BtL Process”.

8. BASF Abu Dhabi

***Editor in International Scientific Journals***

- Guest Editor του Επιστημονικού Περιοδικού Catalysis Today

***Reviewer in International Scientific Journals***

Applied Catalysis, Journal of Analytical and Applied Pyrolysis, Catalysis Today Journal, Microporous and Mesoporous Materials, Ind.Eng.Chem.Res.Dev., Fuel Journal, Chemical Eng. Journal, Chem.Eng.Science, Chemical Engineering & Processing, Fuel Processing Technology

***Participation in research Projects***

1. "Pyrolysis of Greek Lignite for Production of Liquid and Fuels", CPERI, DEI 1986-1990
2. "Removal of SO<sub>x</sub>, NO<sub>x</sub> from refinery flue gases" CPERI, HAR 1986
3. "Advanced Modelling of Riser-Type Catalytic Cracking Reactors", JOULE II: CPERI, HAR, NTUA, Univ Ghent 1993-1995
4. "Increasing the profitability of Greek refineries", STRIDE: CPERI, HAR, EKO, MOTOR OIL 1993-1994.
5. "Equipment for laboratories", PRISMA 1994
6. "Development and Economic Evaluation of reformulated fuels", ΕΠΕΤ ΕΚΒΑΝ#12: CPERI, CPEHT/FORTH, HAR, MOTOR OIL 1995-1997
7. "Development of a Zeolite Based Catalyst for paraffin Alkylation in a Slurry Reactor", JOULE II: CPERI, SINTEF, KTI, STATOIL, UT 1996-1998
8. "Catalytic Pyrolysis of Biomass for Improved Fuel Quality", JOR3-CT95-0081
9. "Laboratories for technical Services", ΕΠΕΤ II, 1997-1999
10. "Catalytic Cracking of the Future", CPERI, AMOCO, AKZO
11. "Novel catalytic processes for the removal of NO<sub>x</sub> and volatile organic compounds from stationary sources", Environment 1995-1998
12. "Optimization of refinery processes with new catalysts", ΕΠΕΤ ΕΚΒΑΝ#39: CPERI, U.Patras, HAR, U.Ioannina 1998-2001
13. PROJECT: JOULE (JOE3-CT97-0052) "Membrane Separation of olefins from FCC naphtha and gases for production of reformulated gasoline" Project: Joule III 1998-2001, CPERI/HEL.PET-HAR/UNIV. TWENTE/FLUENT
14. "DENOX Process for the refinery of the Future", GROWTH 1999-2001, CPERI, HAR, OMV, FORTUM, U.Limerick, U.Twente, Q.U.Belfast, TUM
15. "Adaption of the Montreal Protocol in Greece Enterprises", ADAPT
16. "Optimization of Industrial Kilns by Means of Using Low O<sub>2</sub> Content Flue-Gases Generated by Gas-Turbine Cogeneration Sets", Project CRAFT, ENFL, IPA, UN.LEEDS, CPERI, DYNI, KOTH, PHIL., 1998-2000
17. Catalyst Development for catalytic Biomass flash pyrolysis producing promising liquids, CPERI, SINTEF, ARI, GRACE, BTG, TUS, DECHEMA

***Teaching experience***

- 1986-2002: Lessons and practise for the courses "Technology of liquid fuels", "Technology of solid fuels" and "Energy sources" of Chemical Engineering Department Aristotle university of Thessaloniki.
- Supervision of 2 PhD thesis
- Supervision of 18 Diploma thesis
- Supervision of training for 15 foreign students