**Curriculum Vitae**
**Angeliki A. Lemonidou**

Work Address
Aristotle University of Thessaloniki
Department of Chemical Engineering
54124 University Campus
Thessaloniki, Greece

Tel.: +302310 996273, fax: +302310 996184
Email: alemonidou@cheng.auth.gr, alemonidou@auth.gr
ORCID: 0000-0001-8376-0678, Research ID: P-1452-2017
URL: http://lpt.cheng.auth.gr

***Studies and professional activities***

**Angeliki A. Lemonidou**, is Professor of Chemical Engineering at the Aristotle University of Thessaloniki. She graduated with Bachelor in Chemistry and a GPA 9.05/10.00 (1st in a class of 100 students) from Aristotle University of Thessaloniki in 1979. In 1990 she got her PhD with honors from the Chemical Engineering Department. The thesis entitled "Catalytic steam cracking for ethylene production" was supervised by Prof. Iacovos Vasalos.

She joined Aristotle University as Lecturer in 1992. She was then promoted to Assistant Professor, Associate Professor and in 2011 to Professor of Chemical Engineering. Since 2007 she is Director of the Petrochemical Technology Laboratory and from 2011 to 2015 Head of the Technology section. She serves the Department of Chemical Engineering as Chair for the period 2020-2021. Dr. Lemonidou was Deputy Head of the Center for Interdisciplinary Research and Innovation of Aristotle University (2015-2019). She is collaborating faculty member of the Chemical Process Energy Resources Institute (CPERI/CERTH) and member of the Advisory Board of the Catalysis Center for Energy Innovation CCEI of University of Delaware USA.

During her research career, Prof. Lemonidou has developed long collaborations with universities and research centers in Greece, but also with prestigious international universities, such as the Technical University of Munich (TUM), the Universities of California at Berkeley and Delaware in the USA. Prof. Lemonidou spent her sabbatical in 2008 at Technical University of Munich, Laboratory of Technical Chemistry (Professor Johannes Lercher), at University of Delaware, Department of Chemical Engineering (Professors Dion Vlachos and Mark Barteau) and at University of California Berkeley CA, Department of Chemical Engineering (Professor Enrique Iglesia).

She was elected Vice President of the European Federation of Catalysis Societies (EFCATS) for the period 2017-2019.

***Academic activities***

As an active member of the Department of Chemical Engineering Prof. Lemonidou has long teaching experience as tutor in undergraduate courses related with Design of Catalytic Reactors, Primary Energy Sources, Chemical Processes for Alternative and Conventional Fuels Production, Natural Gas Engineering and Lab courses for Environmental and Energy processes. She has taught for two semesters the course Reactor Design at Chemical Engineering Master program and the course Natural Gas Downstream Processing in the interdepartmental Master program of Hydrocarbon Exploration. She has supervised numerous diploma theses and students projects in undergraduate level. In post graduate level she has supervised 20 PhD theses (6 in progress). She has also served as member of PhD defense committee for 50 graduate students in greek universities and 3 in universities abroad.

***Research activities and expertise***

Her research activities are in catalysis and reaction engineering and more specifically on the development of active and selective nano-structured materials for reactions related to transformation of hydrocarbons and bio-based compounds. Target processes currently studied are the selective oxidation of alkanes, the sustainable production of hydrogen through advanced steam reforming of natural gas and oxygenated feeds, Hydrodeoxygenation of biomass intermediates, $CO_2$ capture and heat storage via thermochemical reactions. Expertise lies in the preparation of nanomaterials via advanced preparation techniques, the structural and morphological characterization using various physicochemical techniques, as well as detailed kinetic and mechanistic studies of catalytic materials under reaction conditions. She has made a substantial contribution with the work of her group on ethane oxidative dehydrogenation and the in-depth study of the Ni-Nb-Ox catalytic materials for the reaction. Her recent contribution also in hydrogen production via steam reforming of natural gas with simultaneous $CO_2$ capture and chemical looping by developing CaO-based sorbents with high $CO_2$ fixing capacity and high stability under reforming conditions are commendable.

***Publications***

Professor A. Lemonidou has published 135 papers in peer reviewed international journals and 30 in reviewed proceedings of international conferences. The scientific work has been presented in national (110) and international conferences (160). She also holds 1 european patent on a novel efficient process for glycerol conversion. She is coauthor of six chapters in books (two in encyclopedias) and three textbooks in greek.

***International acclaim of research activities***

Her work has been highly appreciated by the scientific community with over 7750 citations and h-factor 49 (Scopus) and 9750, h-index 55 (Google Scholar). Eight (8) of her recent articles have been included to the Top25 hottest articles by Elsevier, one (1) in the list of most downloaded articles in Journal of Catalysis and according to Web of Science four (4) articles have been listed as highly cited papers top 1%.

She serves as Associate Editor of "Chemical Engineering Journal", Elsevier, 2019-2021 (IF >10) and Guest Editor of special issues in Catalysis Today (Festschrift Dragomir Bukur 2019 and vol 127, 2007), in Applied Catalysis B Environ (vol 145, 2014) and a volume on Sorption Enhanced Processes in Advances in Chemical Engineering in Elsevier book series (vol 51, 2017). She is also member of the Editorial Boards of "International Journal of Chemical Kinetics", Wiley, 2018-2020, of open access journal Catalysts-MDBI (2010-ongoing) and of Applied Catalysis A General-Elsevier (2004-2007).

She has delivered 15 keynotes and invited lectures in scientific national and international conferences, 5 in workshops and summer schools and (27) at various Universities and Institutes abroad.

Four (4) of her students have received awards for presentations in national and international conferences with the most recent (PhD student award) in European Congress in Catalysis (Europacat 2013).

Professor Lemonidou has served as member of organising committees in many national and international conferences. In 2012 she organized (chair) an international conference entitled "Advances in catalysis in biomass valorization" as satellite of International Catalysis Congress, 15ICC. She has served as evaluator and expert in several panels in EU research programs (FP7, Horizon), NWO, Norwegian Research Council, ACS etc

***Research projects***

Prof. Angeliki Lemonidou participates(d) in a number of national and EU projects as scientific coordinator (35) and researcher (10). Of the 8 projects that recently concluded, 5 of them were national (Thalis, SYNERGASIA I and II, Aristeia) 2 of them were funded by EU (FP7 programme) and 1 by the Qatar National Research Foundation. On-going projects include 1 funded by EU-Horizon 2020, 1 Marie Curie MSCA training network and 3 national projects with a total budget 1,5 million euros.

***Recent Publications in international peer reviewed journals (2015-2020)***

1. E. Vasiliadou, V-.L Yfanti **A.A. Lemonidou***, One-pot tandem processing of crude glycerol stream to propylene glycol, Applied Catalysis B, Environ 163 (2015) 258–266

2. E.T. Liakakou, E. Heracleous, K.S. Triantafyllidis, **A.A. Lemonidou**, K-promoted NiMo catalysts supported on activated carbon for the hydrogenation reaction of CO to higher alcohols: Effect of support and active metal, Applied Catalysis B: Environmental 165 (2015) 296–305

3. V. Zacharopoulou, E. Vasiliadou **A.A Lemonidou***, One-step propylene formation from bio-glycerol over Molybdena-based catalysts, *Green Chemistry***,** 2015, 17 (2), 903 - 912

4. S. Angeli, F. Pilitsis., **A.A. Lemonidou***, Methane steam reforming at low temperature: Effect of light alkanes' presence on coke formation, Catalysis Today , 242 (2015) 119-128 (**25th in the Top 25 list of most downloaded articles, Science Direct, January to March 2015**

5. E. Vasiliadou, **A.A Lemonidou** Glycerol transformation to value added C3 diols: Reaction mechanism, kinetic and engineering aspects, WIREs Energy Environ 2015, 4:486–520. doi: 10.1002/wene.159

6. Andy Antzara, Eleni Heracleous, Dragomir Bukur **Angeliki Lemonidou**, Thermodynamic analysis of hydrogen production via chemical looping steam methane reforming coupled with in situ $CO_2$ capture International Journal of Greenhouse Gas Control (2015) pp. 115-128 (**3rd in the Top 25 list of most downloaded articles, Science Direct, January to March 2015)**

7. Z. Skoufa, E. Heracleous, **A.A. Lemonidou***, On ethane ODH mechanism and nature of active sites over NiO-based catalysts via isotopic labelling and methanol sorption studies, J. Catalysis, 322 (2015) 118–129

8. Lishil Silvester Andy Antzara, Goran Boskovic, Eleni Heracleous, **Angeliki. A. Lemonidou**, Dragomir. B. Bukur, NiO supported on $Al_2O_3$ and $ZrO_2$ oxygen carriers for chemical looping steam methane reforming, International Journal of Hydrogen Energy 40 (2015), pp. 7490-7501

9. Ionel Popescu, Zinovia Skoufa, Eleni Heracleous, **Angeliki Lemonidou** and Ioan-Cezar Marcu, Study by electrical conductivity measurements of semiconductive and redox properties of Nb-doped NiO catalysts in correlation with the oxidative dehydrogenation of ethane, *Physical Chemistry Chemical Physics*,17 (2015) 8138-8147

10. A. Giaconia, G. Monteleone, B. Morico, A. Salladini, K. Shabtai, M. Sheintuch, D. Boettge, J. Adler, V. Palma, S. Voutetakis, **A. Lemonidou**, M.C. Annesini, M. den Exter, H. Balzer, L. Turchetti, Multi-fuelled Solar Steam Reforming for Pure Hydrogen Production Using Solar Salts as Heat Transfer Fluid *Energy Procedia, Volume 69, May 2015, Pages 1750-1758*

11. Andy Antzara, Eleni Heracleous, **Angeliki A. Lemonidou***, Improving the stability of synthetic CaO-based $CO_2$ sorbents by dopants, Applied Energy 156 (2015) 331–343

12. S. Angeli, Giulia Monteleone, Luca Turcetti, **A. Lemonidou***, Catalyst development for steam reforming of methane and model biogas at low temperature**,** *Applied Catalysis B 181 (2016) 34–46*

13. Andy Antzara, Eleni Heracleous, Lishil Silvester, Dragomir B. Bukur, **Angeliki. A. Lemonidou***, Activity study of NiO-based oxygen carriers in chemical looping steam methane reforming, Catal. Today, 272 (2016) 32-41

14. Zinovia Skoufa, Andy Antzara, Eleni Heracleous, **Angeliki A. Lemonidou**, Evaluating the activity and stability of CaO-based sorbents for post-combustion $CO_2$ capture in fixed-bed reactor experiments, Energy Procedia, 86 (2016) 171-180 DOI 10.1016/j.egypro.2016.01.018

15. E. Vasiliadou, V.-L. Yfanti, **A.A Lemonidou***, Glycerol hydro-deoxygenation aided by in-situ $H_2$ generation via methanol aqueous phase reforming over Cu-ZnO-$Al_2O_3$ catalyst, *Catal. Sci. & Technol.* 2016, 6, 5415

16. L. Turchetti, M.A. Murmura, G. Monteleone, A. Giaconia, **A.A. Lemonidou**, S.D. Angeli, V. Palma, C. Ruocco, M.C. Annesini, Kinetic assessment of Ni-based catalysts in low-temperature methane/biogas steam reforming, Int J. Hydrogen Energy 41 (2016), 16865-16877

17. A. Antzara, E. Heracleous, **A. Lemonidou***, Energy efficient sorption enhanced-chemical looping methane reforming process for high-purity $H_2$ production: experimental proof-of-concept, Applied Energy, 180 (2016) 457–471

18. Lishil Silvester; Dimitris Ipsakis; Andy Antzara; Eleni Heracleous; **Angeliki A Lemonidou;** Dragomir B Bukur, Development of NiO-based oxygen transfer materials: Effect of support on redox behavior and carbon deposition in methane, Energy & Fuels 3*0* (10) (2016) 8597–8612

19. Dimitris Ipsakis, Eleni Heracleous, Lishil Silvester, Dragomir B. Bukur, **Angeliki A. Lemonidou***, Reduction and Oxidation Kinetic Modeling of NiO-based Oxygen Transfer Materials Chemical Engineering Journal, 308 (2017) 840-852

20. P.N. Kechagiopoulos, S.D. Angeli, **A.A. Lemonidou,** Low temperature steam reforming of methane: A combined isotopic and microkinetic study, Appl. Catal. B Environ, 205 (2017) 238-253

21. V-L. Yfanti, E. Vasiliadou, S. Sklari, **A.A. Lemonidou***, Deoxygenation of glycerol with in-situ H2 formation over Pt catalysts supported on Fe modified Al2O3: Effect of Fe loading, J. Chem.Technol. Biotech. 92 (2017) 2236-2245

22. V. Zacharopoulou, E. Vasiliadou, **A.A. Lemonidou***, Exploring reaction pathways bio-glycerol hydro-deoxygenation to propene, ChemSusChem, 11 (2018) 264-275

23. Andy Antzara, Aitor Arregi, Eleni Heracleous, **Angeliki A. Lemonidou***, In-depth evaluation of a ZrO2 promoted CaO-based CO2 sorbent in fluidized bed reactor tests, Chem Eng. J., 333 (2018) 697-711

24. Z. Skoufa, G. Giannakakis, E. Heracleous, **A.A. Lemonidou**, Simulation-aided effective design of a catalytic reactor for ethane oxidative dehydrogenation, Catal. Today 299 (2018) 102–111

25. Vasiliki Zacharopoulou, **Angeliki A. Lemonidou***, Olefins from Biomass Intermediates: A Review, Catalysts 2018, 8, 2-20; doi:10.3390/catal8010002

26. Vasileia-Loukia Yfanti, Dimitrios Ipsakis, **Angeliki A. Lemonidou***, Kinetic study of liquid phase glycerol hydrodeoxygenation under inert conditions over Cu-based catalyst, React. Chem. Eng., 2 *(*2018) 559-571

27. M.D. Zhurka, **A.A. Lemonidou**, J.A. Anderson, P.N. Kechagiopoulos, Kinetic analysis of the steam reforming of ethanol over Ni/$SiO_2$ for the elucidation of metal dominated reaction pathways, React Chem Engin **3 (**2018), 883-997

28. V.-L. Yfanti**, A.A. Lemonidou***, Mechanistic study of liquid phase glycerol hydrodeoxygenation with in-situ generated hydrogen, Journal of Catalysis 368 (2018) 98–11

29. Dragomir B. Bukur, Lishil Silvester, Nico Fischer, Michael Claeys, **Angeliki A. Lemonidou**, On the use of an in situ magnetometer to study redox and sintering properties of NiO based oxygen carrier materials for chemical looping steam methane reforming, Intern. J. Hydrogen Energy 44 (2019)18093-18102

30. Theodoros Papalas, Andy Antzaras, **Angeliki A. Lemonidou***, Intensified steam methane reforming coupled with Ca-Ni looping in a dual fluidized bed reactor system: A conceptual design, Chemical Engineering Journal, 382 (2020) 122993

31. Vasileia-Loukia Yfanti, **Angeliki A. Lemonidou***, Effect of hydrogen donor on glycerol hydrodeoxygenation to 1,2-Propanediol, Catalysis Today, in press, DOI:10.1016/j.cattod.2019.04.080

32. Dimitris Ipsakis E. Heracleous, L. Silvester, **A. Lemonidou***, Reaction-based kinetic model for the reduction of supported NiO oxygen transfer materials by CH4, Catalysis Today , 343 (2020) 72-79 (https://doi.org/10.1016/j.cattod.2019.01.041

33. Theodoros Papalas, Andy Antzaras, **Angeliki A. Lemonidou***, Evaluation of calcium-based sorbents derived from natural ores and industrial wastes for high temperature $CO_2$ capture, Ind. Eng. Chem. Res. 2020, 59, 9926−9938

34. Stavros A. Theofanidis Charis Loizidis Eleni Heracleous, **Angeliki A. Lemonidou***$CO_2$-oxidative ethane dehydrogenation over highly efficient carbon-resistant Fe-catalysts, Journal of Catalysis 388(2020) 5265

35. Andy Antzaras, Eleni Heracleous, **Angeliki A. Lemonidou*** Hybrid catalytic materials with $CO_2$ capture and oxygen transfer functionalities for high–purity $H_2$ production Catalysis Today 2020 10.1016/j.cattod.2020.06.018

36. Andy Antzaras, Eleni Heracleous, **Angeliki A. Lemonidou**, Sorption enhanced – chemical looping steam methane reforming: Optimizing the thermal coupling of regeneration in a fixed bed reactor, Fuel Proc Technol 208 (2020) 106513

37. Athanasios Scaltsoyiannes, **Angeliki Lemonidou***, $CaCO_3$ decomposition for calcium-looping applications: Kinetic modeling in a fixed-bed reactor, Chem Eng Science, X 8 (2020) 100071 10.1016/j.cesx.2020.100071

38. Mohammad Heidari, Maryam Tahmasebpoor, Andy Antzaras, **Angeliki A. Lemonidou** $CO_2$ capture and fluidity performance of CaO-based sorbents: Effect of Zr, Al and Ce additives in tri-, bi- and mono-metallic configurations, accepted Process Safety and Environ Protection, 144 (2020) 349-365

39. Athanasios Scaltsoyiannes, Georgios Koilaridis, Andy Antzaras, **Angeliki Lemonidou***, Towards a generalized carbonation kinetic model for CaO-based materials using a modified random pore model, *Chemical Engineering Journal DOI: 10.1016/j.cej.2020.127207*

40. Evgenios Karasavvas, Athanasios Scaltsoyiannes, Andy Antzaras, Kyriakos D. Panopoulos, Simira Papadopoulou, **Angeliki Lemonidou**, Spyros Voutetakis, One-dimensional heterogeneous reaction model of a drop–tube carbonator reactor for thermochemical energy storage applications with calcium looping, Energies 13 (22) 2020 5095