

Short CV – Dr Eleni Heracleous**Personal information**

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**Education**

- 2000 – 2005 Ph.D. in Chemical Engineering (Excellent)
Aristotle University of Thessaloniki, Department of Chemical Engineering
Thesis title: “Novel selective catalytic process for the production of ethylene”
Supervisor: Professor Angeliki A. Lemonidou
- 1995 – 2000 Dipl.-Ing. in Chemical Engineering (Graduation grade: 8.2/10)
Department of Chemical Engineering, Aristotle University of Thessaloniki

Current positions

- 2016 – to-date Assistant Professor in Energy Systems and Renewable Energy Sources
School of Science & Technology
International Hellenic University (IHU)
- 2013 – to-date Collaborating Faculty Member
Laboratory of Environmental Fuels & Hydrocarbons (LEFH)
Chemical Process & Energy Resources Institute (CPERI)
Centre for Research and Technology Hellas (CERTH)

Previous positions

- 2013 – 2015 Lecturer in Energy Systems and Renewable Energy Sources
School of Science & Technology, International Hellenic University (IHU)
- 2009 – 2013 Collaborating Research Scientist
Laboratory of Environmental Fuels & Hydrocarbons (LEFH)
Chemical Process & Energy Resources Institute (CPERI)
Centre for Research and Technology Hellas (CERTH)
- 2006 – 2008 Marie Curie Post-Doctoral Fellow
Shell Global Solutions (Deutschland) GmbH, Hamburg, Germany
- 2000 – 2005 Ph.D. student
Laboratory of Petrochemical Technology
Department of Chemical Engineering
Aristotle University of Thessaloniki

Teaching activities

Teaching of the following master courses at the MSc programs “Energy Systems”, “Energy Management” and “Energy Building Design” of the School of Science & Technology at the International Hellenic University

2015 – to-date Principles of Energy Technology (average student evaluation grade: 4.4/5)

2015 – to-date Fuels and Energy Conversion (average student evaluation grade: 4.5/5)

2015 – to-date Alternative Fuels (average student evaluation grade: 3.9/5)

2015 – to-date Environmental Assessment (average student evaluation grade: 3.7/5)

2013 - 2015 Bioenergy (average student evaluation grade: 4.1/5)

2014 – 2015 Hydrogen Energy (average student evaluation grade: 4.8/5)

2014 – 2015 Intro to Energy Technology Systems (average student evaluation grade: 4.5/5)

2007 – 2008 Temporary lecturer position (P.D. 407/80) at the Department of Chemical Engineering of the Aristotle University of Thessaloniki.
Teaching of 4th year elective course “Liquid Fuel Processes”

2005 – 2006 Teaching assistant in the laboratory course “Selective Catalytic Reduction of NO_x emissions with hydrocarbons in refinery units”, in the frame of the elective course Environment Laboratory I of the Department of Chemical Engineering, AUTH

2002 – 2004 Teaching assistant in the laboratory course “Determination of diesel fuel properties – Diesel Fuel Specifications”, in the frame of the obligatory 4th year course Chemical Engineering Laboratory II of the Department of Chemical Engineering, AUTH

Student supervision

2016 – to-date Supervision of 2 Ph.D. Theses at the School of Science & Technology, International Hellenic University

2014 – to-date Supervision of 8 Master Diploma Theses at the School of Science & Technology, International Hellenic University

2015-2016 Supervision of 3 Master Diploma Theses at the MSc in Catalysis and Environment Protection, Hellenic Open University

2008 – 2016 Co-supervision (with Prof. Angeliki Lemonidou) of 2 Ph.D. Theses at the Department of Chemical Engineering, Aristotle University of Thessaloniki

2000-2005 Supervision of 10 Diploma Theses at the Department of Chemical Engineering, Aristotle University of Thessaloniki

Institutional responsibilities

2016 – to-date Board member of the Research Committee, International Hellenic University

2016 – to-date Director of the MSc programs “Energy Systems”, “Energy Management” and “Energy Building Design”

2015 – to-date Head of the Erasmus+ Committee of the School of Science & Technology, International Hellenic University

2014 – to-date Member of the General Assembly of the School of Science & Technology, International Hellenic University

2014 – to-date Member of the Internal Evaluation Committee of the School of Science & Technology, International Hellenic University

2014 – to-date Member of the Student Applications’ Evaluation Committee of the School of Science & Technology, International Hellenic University

2014 – to-date Representative of the International Hellenic University at the National Organization for the Certification of Qualifications & Vocational Guidance (EOPPEP)

Commissions of Trust

2017	Guest Editor of Special Issue “Advances in catalytic biomass fast pyrolysis and bio-oil upgrading”, Biomass Conversion and Biorefinery, Volume 7, Issue 3 (September 2017)
2014	Guest Editor of Special Issue “Advances in Catalysis for Biomass Valorization”, Applied Catalysis B: Environmental, Volume 145, Pages 1-222 (February 2014)
2016 – 2017	Member of examination committees for Ph.D. theses at the Aristotle University of Thessaloniki and the University of Western Macedonia
2014 – 2018	Substitute national representative at the COST action FP1306 «Valorisation of lignocellulosic biomass side streams for sustainable production of chemicals, materials & fuels using low environmental impact technologies»
2014 – 2018	Substitute national representative at the COST action TU1401 «Renewable energy and landscape quality (RELY)»
2016 – 2018	Evaluator of EU research proposals in H2020
2013	Evaluator in the call for research infrastructure Hercules of the University of Ghent, Belgium
2012	Evaluator in the call Small Grant Scheme 2012 of the Polish-Norwegian Research Fund
2000 – to-date	Reviewer in more than 25 highly esteemed peer review scientific journals

Research Interests

- Conversion of CO and CO₂ to high-added value fuels and chemicals via catalytic processes
- Conversion of biomass and biomass-derived streams to high quality fuels and chemicals via catalytic thermochemical processes
- Valorization of light alkanes to high added value petrochemicals via catalytic selective oxidation processes
- CO₂ capture from stationary emission sources via carbonate looping and chemical looping
- Intensification of natural gas reforming processes for the reduction of energy demands and the increase of hydrogen yield
- Environmental assessment of biomass-to-fuels/chemicals conversion chains via Life Cycle Analysis (LCA)

Summary of research output

Publications in peer-reviewed journals	47
Chapters in books (peer-reviewed)	7
Publications in non-reviewed journals (conference proceedings)	5
Papers in international conferences	86
Papers in national conferences	45
Presentations in workshops/schools	11

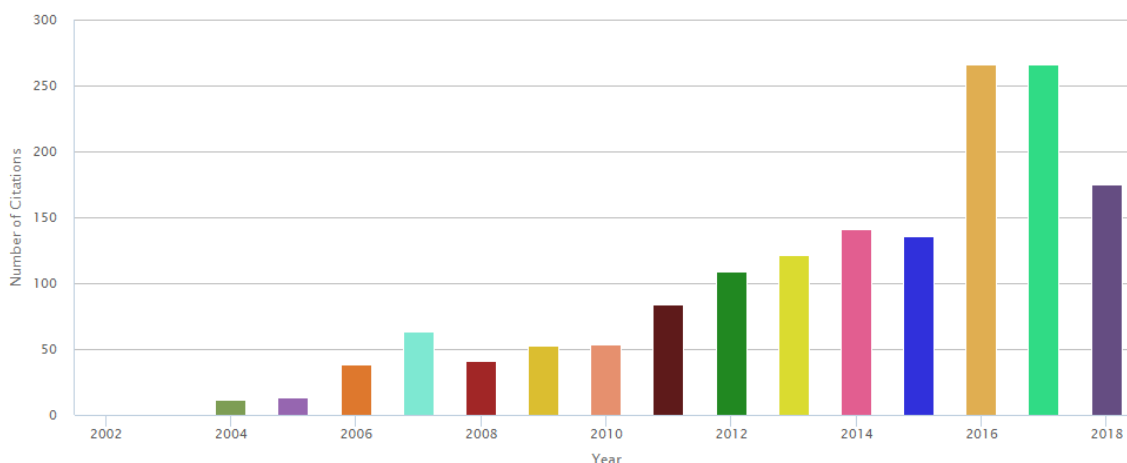
Impact of research output

A/A	Journal	No of publications	Impact Factor 2015
1	Angewandte Chemie International Edition	1	11,709
2	Applied Catalysis B: Environmental	3	8,328
3	Journal of Catalysis	6	7,354
4	ChemSusChem	1	7,116
5	Applied Energy	2	5,746
6	Chemical Engineering Journal	3	5,310
7	Catalysis Science & Technology	2	5,287
8	Journal of CO ₂ Utilization	1	4,764
9	ChemCatChem	1	4,724
10	Physical Chemistry Chemical Physics	2	4,449

13	Catalysis Today	6	4,312
14	International Journal of Greenhouse Gas Control	1	4,064
15	Applied Catalysis A: General	6	4,012
16	Journal of Molecular Catalysis A: Chemical	1	3,958
17	Fuel Processing Technology	1	3,752
18	Biomass & Bioenergy	1	3,249
19	International J of Hydrogen Energy	2	3,205
20	Energy & Fuels	1	2,835
21	Chemical Engineering Science	1	2,750
22	Ind. & Eng. Chemistry Research	2	2,567
23	Catalysis Letters	1	2,294
24	Biomass Conversion & Biorefinery	2	
	TOTAL	47	

Citations

	Google Scholar	Scopus
Citations	1807	1573
Hetero-citations (excl citations from all authors)	-	1402
h – index	23	19



Funded projects as Coordinator and Partner

- Principal Scientific Investigator of the H2020 project “**Sustainable Drop-In Transport fuels from Hydrothermal Liquefaction of Low Value Urban Feedstocks**” funded by the EU in the frame of the call LC-SC3-RES-21-2018. Total Budget: 5.074.876,25€. Own Budget: 891.250,00€ - 2018-2021
- Coordinator of Scientific Activities and Principal Scientific Investigator in the national project “**Novel intensified processes for CO₂ capture and conversion to methanol – CO₂²MeOH**” funded in the frame of the call “Ereunw-Dimiourgw-Kainotomw” for the collaboration between industries and research organizations. Total Budget: 999.760, 00€. Own Budget: 244.730,00€ - 2018-2021
- Principal Scientific Investigator in the national project “**Valorization of oil refinery liquid waste with simultaneous glycerol recycling from biodiesel industries towards the production of (1) high added value PROPylene and (2) glycerides via EsteRification for the synthesis of biodiesel – ProperDiesel**” funded in the frame of the call “Ereunw-Dimiourgw-Kainotomw” for the collaboration between industries and research organizations. Total Budget: 957.602,50€. Own Budget: 65.960,00€ - 2018-2021

- Co-coordinator of the H2020 project “**Sustainable and efficient bio-chemical catalytic cascade conversion of residual biomass to high quality biopolymers**” funded by the EU in the frame of the call H2020-NMBP-2016-2017, BIOTEC-06-2017. Total Budget: 5.693.145,00€. Own Budget: 1.316.250,00€ - 2018-2020

Project participation as main research scientist

- “DIRPRIMCOAL - Direct Primary Coal Liquefaction via an Innovative Co-processing Approach with Waste and Petroleum Feedstocks”, EU RFCS-2015 Project, GA 709493, 7/2016 – 7/2019
- “CASCATBEL - CAScade deoxygenation process using tailored nanoCATalysts for the production of BiofuELs from lignocellulosic biomass”, EU FP7-NMP-2013-LARGE-7, 2014-2017
- “WAVES - WASTE bio-feedstocks hydro-Valorisation processes”, CAPITA-ERANET, GSRT, 2013-2015
- “Minerals for Sustainable cost and energy efficient chemical looping combustion technology”, FENCO-ERANET, GSRT, 2013-2015
- “Exploring novel routes for CO₂-free fossil fuel combustion”, National Action ‘COOPERATION 2011 - Partnerships of Production and Research Institutions in Focused Research and Technology Sectors’, Ministry of Education, Lifelong Learning and Religious Affairs, 2013-2016
- “Intensifying methane reforming by combining carbonate and chemical looping”, NPRP 5-420-2-166, funded by the Qatar National Research Fund (QNRF), 2012-2015
- “Glycerol2Energy: Production of energy carriers from biomass by-products”, National Action ‘Thales’, Greek Ministry of Education and E.U./European Social Fund, Operational Program ‘Education and Life-Long Learning (EDULLL)’, 2012-2016
- “BRISK - The European Research Infrastructure for Thermochemical Biomass Conversion”, Combination of EU Collaborative Project & Coordination and Support Actions FP7-INFRASTRUCTURES-2011-1, 2011-2015
- “EuroBioRef - EUROpean multilevel integrated BIOREFinery design for sustainable biomass processing”, EU Collaborative Project FP7-2009-BIOREFINERY_CP, 2010-2014
- “Optimized Fuels for Sustainable Transport in Europe”, EU Collaborative Project ENERGY.2007.3.2.5: Synthetic biofuels via gasification, 2008-2012
- “Alkanes to light olefins via novel catalysts and process schemes: AL2OL”, ACENET-ERANET 1st Call for Proposals, Contract No: ACE.07.003, General Secretariat of Research and Technology, 2009-2012
- “Novel efficient catalysts for bio-syngas conversion to C₂-C₄ alcohols: GAS2ALCO”, Marie-Curie European Reintegration Grant (ERG), Contract No: PERG04-GA-2008-235058, 2009-2012
- “CO₂ reduction through automotive bio-component & sustainable step changes in fuels and lubricants performance: SUSTAINABLE FUELUBE”, Marie-Curie Host Fellowship for the Transfer of Knowledge (ToK), Industry-Academia Partnership Scheme, Contract No: MTKI-CT-2004-509777, 2006-2008
- “Novel selective catalytic processes for the production of ethylene and propylene”, National Research Programme supported by the General Secretariat for Research and Technology (GSRT) Hellas, 2003-2006
- “Novel nanoscopically tailored cracking catalysts for the efficient production of ethene and propene”, Greek-German Joint Research and Technology Programme supported by the General Secretariat for Research and Technology (GSRT) Hellas, 2002-2004

10 most cited publications in peer-reviewed journals

1. **E. Heracleous**, A.F. Lee, K. Wilson, A.A. Lemonidou, "Investigation of Ni-based alumina supported catalysts for the oxidative dehydrogenation of ethane to ethylene: Structural characterization and reactivity studies", *Journal of Catalysis* 231 (2005) 159 – Number of citations (excluding self-citations):155
2. **E. Heracleous**, A.A. Lemonidou, "Ni-Nb-O mixed oxides as highly active and selective catalysts for ethene production via ethane oxidative dehydrogenation. I. Characterization and catalytic performance", *Journal of Catalysis* 237 (2006) 162 – Number of citations (excluding self-citations):128
3. **E. Heracleous**, M. Machli, A.A. Lemonidou, I.A. Vasalos, "Oxidative dehydrogenation of ethane and propane over vanadia and molybdena supported catalysts", *Journal of Molecular Catalysis A: Chemical* 232 (2005) 29 – Number of citations (excluding self-citations):108
4. E.S. Vasiliadou, **E. Heracleous**, I.A. Vasalos, A.A. Lemonidou, "Ru-based catalysts for glycerol hydrogenolysis", *Applied Catalysis B: Environmental* 92 (2009) 90 – Number of citations (excluding self-citations):101
5. **E. Heracleous**, A.A. Lemonidou, "Ni-Nb-O mixed oxides as highly active and selective catalysts for ethene production via ethane oxidative dehydrogenation. II. Mechanistic aspects and kinetic modelling", *Journal of Catalysis* 237 (2006) 175 – Number of citations (excluding self-citations):95
6. **E. Heracleous***, A.A. Lemonidou, "Ni-Me-O mixed metal oxides for the effective oxidative dehydrogenation of ethane to ethylene - Effect of promoting metal Me", *Journal of Catalysis* 270 (2010) 67 – Number of citations (excluding self-citations): 78
7. A. Christodoulakis, **E. Heracleous**, A.A. Lemonidou, S. Boghosian, "An operando Raman study of structure and reactivity of alumina-supported molybdenum oxide catalysts for the oxidative dehydrogenation of ethane", *Journal of Catalysis* 242 (2006) 16 – Number of citations (excluding self-citations): 54
8. E. Heracleous, A.A. Lemonidou, J.A. Lercher, "Mechanistic features of the ethane oxidative dehydrogenation by in situ FTIR spectroscopy over a MoO₃/Al₂O₃ catalyst", *Applied Catalysis A: General* 264 (2004) 73 – Number of citations (excluding self-citations): 41
9. **E. Heracleous***, E.T. Liakakou, A.A. Lappas, A.A. Lemonidou, "Investigation of K-promoted Cu-Zn-Al, Cu-X-Al and Cu-Zn-X (X=Cr, Mn) catalysts for carbon monoxide hydrogenation to higher alcohols", *Applied Catalysis A: General* 455 (2013) 145 – Number of citations (excluding self-citations): 35
10. M. Machli, **E. Heracleous**, A.A. Lemonidou, "Effect of Mg addition on the catalytic performance of V-based catalysts in oxidative dehydrogenation of propane", *Applied Catalysis A: General* 236 (2002) 23 – Number of citations (excluding self-citations): 29