



Education and academic career

Prof. George Papadakis was born in Chania, Crete, Greece. He has obtained his Diploma on Agricultural Engineering from the Agricultural University of Athens (AUA) in 1983. He then continued his studies as PhD candidate at AUA in 1984 and he received his doctoral degree (PhD) on agricultural engineering in 1989. In the following two years (1991-1992) he worked as researcher at the Centre for Renewable Energy Sources in Athens, Greece. Then, from 1993 to 1996, he continued his work as researcher at the Agricultural University of Athens mainly involved in renewable energy projects.

In September 1996 he was appointed Assistant Professor (tenured) at the Dept of Natural Resources and Agricultural Engineering of AUA. Since 2009 he is Full Professor on “Renewable Energy Technologies” at AUA.

Research and publications

Papadakis has been working on renewable energy systems for more than 20 years. Major research activities regard water desalination powered by renewable energy (solar photovoltaic and wind) and other energy sources. He has also been working on the development and application of microgrids consisted of renewable energy technologies for electricity supply, on the development of energy systems based on the Organic Rankine Cycle (ORC) and on the biofuels’ deployment for power production.

Since 1997 he has coordinated, 30 research projects; 17 international projects funded by the European Union, 3 bilateral projects (between Greece and Germany, Romania, Hungary) and 10 national ones. In these projects he has collaborated with a large number of universities, institutes and private companies from more than 35 countries. The projects’ budget he has managed on behalf of AUA has exceeded 5.5 million EURO while the overall budget of the multi partners’ projects he has coordinated has exceeded 17.5 million EURO, all from competitive projects. He has gained large experience in setting up competitive research proposals and in managing and executing research projects and experimental research through multi-national, multi-partner projects, many of which had inter-disciplinary character.

Since 1988, he has published more than 180 papers, (80 papers in refereed journals and books, more than 100 papers in international and national conference proceedings and many other publications such as workshop papers, project reports, popular magazine articles etc.). His journal papers have received more than 3400 citations with h index equal to 35, (data from www.scopus.com – in Jan. 2018, searched as “g. papadakis AND agricultural university of athens”). Google scholar reported (in Jan. 2018) more than 5250 citations on all papers (including conference papers) with h index equal to 40, https://scholar.google.gr/citations?hl=el&user=kF-s6CsAAAAJ&view_op=list_works&sortby=pubdate.

International distinctions

- Top cited author internationally in the field of Organic Rankine Technology (ORC) for the period 2000-2016, (as mentioned by Imran et al. *Recent research trends in organic Rankine cycle technology: A bibliometric approach*. Renewable and Sustainable Energy Reviews, 81, 2018, pp. 552-562).
- Invited from the International Desalination Society (IDA) to the Energy and Environmental Forum, “Creative Solutions and Innovative Strategies to Today’s Water Challenges”, Dec 7–8, 2016,

Miami, Florida, USA. He contributed on “Aspects of Variable Operation of Autonomous and Island Grid Connected RO Desalination Systems”. A Blue paper was published by IDA in April 2017, <http://ida.enoah.com/Publications/Blue-Paper>.

- Invited to write editorial articles for the Journal Fundamentals Renewable Energy Applications (as member of the editorial board) on Renewable Energy Powered Desalination (in 2017) and on the Organic Rankine Technology (in 2016).
- Invited from the Massachusetts Institute of Technology (MIT) Abdul Latif Jameel World Water and Food Security Lab to the “*Low Carbon Desalination Workshop*”, MIT October 17-18, 2016. He contributed on: (a) Understanding fouling to enhance RO performance and facilitate coupling with renewable sources; (b) Autonomous grids and integration at small scales, (c) PV-RO and grid-scale PV. Report published at <http://web.mit.edu/lowcdesal>.
- Member of Editorial Boards of six (6) international Journals, namely:
 - Applied Science, (Energy Sector, <http://www.mdpi.com/journal/applsci/editors>).
 - Modern Environmental Science and Engineering, (<http://www.academicstar.us/journalsshow.asp?ArtID=397>).
 - Journal of Power and Energy Engineering, (www.scirp.org/journal/jpee).
 - Journal of Fundamentals of Renewable Energy and Applications, (<https://www.omicsonline.org/editorialboard-fundamentals-renewable-energy-applications-open-access.php>).
 - British Journal of Renewable Energy, (<http://measpublishing.co.uk/journals/bjre/>).
 - Journal of Renewable and Sustainable Energy, (member of the Editorial Advisory Board), (<http://aip.scitation.org/rse/info/advisory>).
- Distinguished expert of the Chinese government and guest professor (2015, 2016 and 2017) at the Southeast University, Nanjing, China.
- Invited member (2016) of the “scientific council” of CIEMAT-Plataforma Solar de Almería, Spain.
- Founding fellow (2016) of the International Academy of Agricultural and Biosystems Engineering, <http://cigr.org/Governance/academy.php>
- Selected NK4 expert (2016) on desalination for the European Union project “Pump-storage Santiago Island/Cape Verde – Economic and financial simulations to define the PPP Strategy”.
- Invited founding member (2015) of the “*Global Clean Water Desalination Alliance-H₂O minus CO₂*”.
- Invited founding fellow (2015) of the International Academy of Agricultural and Biological Engineering of CIGR, (CIGR: Committee International on Agricultural Engineering).
- Awarded the life time distinction “*CIGR Fellow*” at the ASAE annual international meeting/CIGR XVth world congress, 28-31/7/ 2002, Chicago, USA, (ASAE: American Society of Agricultural Engineers).
- Invited (2000) from the European Commission as expert for a study on sustainable water management (water desalination) specifically for the countries Greece, Spain, France, Italy, Portugal, Malta, Cyprus. A book was published, «Για μια αειφόρο στρατηγική διαχείριση των υδατικών πόρων», Λουξεμβούργο, 2000, ISBN 92-828-7419-2.

Teaching and Theses supervision

Prof. Papadakis has played a key role at the Agricultural University of Athens (AUA) for the advancement of the academic (education and research) activities in the field of sustainable energy.

In the period 2012-2016, he was partner in a TEMPUS, European Union funded project regarding “*Solar energy system design using advanced learning aids*” where modern educational material was developed, that is PowerPoint presentations, videos and texts regarding solar energy (photovoltaics and solar thermal) systems design in the English and the Arabic languages. He is currently coordinator of an ERASMUS plus project (2017-2020) funded by the European Union on “Sustainable farming – SFARM”, for the development of a Masters program of studies in 12 universities (3 from European Union countries and 8 from Asian counties: 2 from China, 2 from Laos, 2 from Vietnam and 2 from Indonesia).

Over the past 20 years he has taught a series of courses on under- and postgraduate level at AUA, including courses on Renewable energy technologies, Technologies for increasing energy efficiency, Heat and mass transfer, Fuels – Combustion – Heat production and distribution systems, Tractors, Agricultural field machinery, Turbomachinery, Ergonomics and Safety in Agricultural Engineering.

As an internationally recognized academic he has been invited to deliver seminars/courses in universities such as the University of South Florida - USA, Columbia University – NYC - USA, Liege University - Belgium, Ghent University - Belgium, Aston University - UK, University Cadi Ayyad – Marrakech - Morocco, Alexandria University - Egypt, Cairo University - Egypt, China Agricultural University – Beijing - China, Southeast University – Nanjing - China, Seoul National University - S. Korea.

He has supervised (as principal supervisor) 4 PhDs and is currently supervising (as principal supervisor) 3 PhD students. He coordinates a research group at AUA (www.renewables.aua.gr), which includes 3 post-doc researchers, 3 Ph.D. students and 2 other engineers while he collaborates with several faculty members.

University administration experience

Elected vice Rector (vice President) of AUA responsible for the economic affairs, research and development of the university (a 4 year term, September 2010 - August 2014). Major responsibilities included, management of the yearly budget of the university (as set by the Greek Ministry of Education – about 3.5 million EURO per year), management of the research funding of any source, finding new funds for the university. Major accomplishments include a) the setting up of a project for development appropriate structures for the exploitation of research results of the university, such as the foundation of a tech transfer office (funded by 860 thousands EURO by the municipality of Athens with a duration of two and a half years). Such structures never existed before at AUA; b) negotiating and securing the funding of new educational and research equipment for the university, (with an approved budget of 8.5 million EURO by the prefecture of Attica); c) initiation of a project for the development of a lifelong training centre and agricultural extension service and the establishment of an innovation and entrepreneurship centre (project financed by the Stavros Niarchos foundation - first phase budget 200000 USD).

Since 2015 he is director of the Lab of Agricultural Engineering at the Dept. of Natural Resources and Agricultural Engineering of AUA.

List of selected publications (since 2008) in refereed journals and books

1. Christos-Spyridon Karavas, George Papadakis. **A novel autonomous PV powered desalination system based on a DC microgrid concept incorporating short-term energy storage.** Solar Energy, 159, **2018**, pp. 947-961.
2. Christos-Spyridon Karavas, Konstantinos Arvanitis, George Papadakis. **A Game Theoretic Approach to Multi-Agent Decentralized Energy Management of Autonomous Polygeneration Microgrids.** Energies **2017**, 10, 1756; doi:10.3390/en10111756.
3. G. Kosmadakis, G. Mousmoulis, D. Manolagos, I. Anagnostopoulos, G. Papadakis, D. Papantonis. **Development of open-drive scroll expander for an organic Rankine cycle engine and first test results.** Energy Procedia 129, **2017**, pp. 371-378.
4. Karavas C.-S.; Papadakis G. **Renewable energy driven small-scale sea water reverse osmosis desalination systems: A survey.** J. Fundam. Renew. Energy Appl. **2017**, 7:3, e115, (editorial article), DOI: 10.4172/2090-4541.1000e115.
5. Erika Ntavou, George Kosmadakis, Dimitris Manolagos, George Papadakis, Dimitris Papantonis. **Experimental testing of a small-scale two stage Organic Rankine Cycle engine operating at low temperature.** Energy **2017**, vol 141, pp 869-879
6. Evangelos Dimitriou, Panagiotis Boutikos, Essam Sh. Mohamed, Slawomir Koziel, George Papadakis. **Theoretical performance prediction of a reverse osmosis desalination membrane element under variable operating conditions.** Desalination, **2017**, 419, pp. 70–78.
7. G. Kyriakarakos, A.I. Dounis, K.G. Arvanitis, G. Papadakis. **Design of a Fuzzy Cognitive Maps Variable-Load Energy Management System for Autonomous PV-Reverse Osmosis Desalination Systems: A Simulation Survey.** Applied Energy, **2017**, 187, pp. 575-584.
8. P. Kofinas, A.I. Dounis, Essam Sh. Mohamed, G. Papadakis. **Adaptive neuro-fuzzy model for renewable energy powered desalination plant.** Desalination and water treatment, **2017**, 65, pp.67-78.

9. Markou, G., Brulé, M., Balafoutis, A., Kornaros, M., Georgakakis, D., Papadakis, G. **Biogas production from energy crops in northern Greece: economics of electricity generation associated with heat recovery in a greenhouse.** *Clean Technologies and Environmental Policy*, **2017**, 19(4), pp. 1147-1167.
10. Kosmadakis, G., Landelle, A., Lazova, M., Manolakos, D., Kaya, A., Huisseune, H., Karavas, C.-S., Tauveron, N., Revellin, R., Haberschill, P., De Paepe, M., Papadakis, G. **Experimental testing of a low-temperature organic Rankine cycle (ORC) engine coupled with concentrating PV/thermal collectors: Laboratory and field tests.** *Energy*, Vol. 117, 15 Dec **2016**, Pages 222-236.
11. Ntavou, E., Kosmadakis, G., Manolakos, D., Papadakis, G., Papantonis, D. **Experimental evaluation of a multi-skid reverse osmosis unit operating at fluctuating power input.** *Desalination*, **2016**, 398, pp. 77-86.
12. George Kosmadakis, Dimitris Manolakos and George Papadakis. **Developments on Small-Scale Organic Rankine Cycle (ORC) Systems.** *J. Fundam. Renew. Energy Appl.* **2016**, 6:4, e109, (editorial article), DOI: 10.4172/2090-4541.1000e109.
13. I. Vallios, T. Tsoutsos, G. Papadakis. **An applied methodology for assessment of the sustainability of biomass district heating systems.** *International Journal of Sustainable Energy* **2016**, 35 (3), pp. 267-294.
14. G. Kosmadakis, D. Manolakos, G. Papadakis. **Experimental investigation of a low-temperature organic Rankine cycle (ORC) engine under variable heat input operating at both subcritical and supercritical conditions.** *Applied Thermal Engineering*, **2016**, 92, pp. 1-7.
15. Karavas, C.-S., Kyriakarakos, G., Arvanitis, K.G., Papadakis, G. **A multi-agent decentralized energy management system based on distributed intelligence for the design and control of autonomous polygeneration microgrids.** *Energy Conversion and Management*, **2015**, 103, pp. 166-179
16. G. Kyriakarakos, D. D. Piromalis, K. G. Arvanitis, A. I. Dounis, G. Papadakis. **On Battery-Less Autonomous Polygeneration Microgrids: Investigation of the Combined Hybrid Capacitors / Hydrogen Alternative.** *Energy Conversion and Management*, **2015**, 91, pp. 405-415
17. P. Kofinas, A. I. Dounis, G. Papadakis, M.N. Assimakopoulos. **An Intelligent MPPT Controller based on Direct Neural Control for Partially Shaded PV System.** *Energy and Buildings*, **2015**, 90, pp. 51-64.
18. A. I. Dounis, P. Kofinas, G. Papadakis, C. Alafodimos. **A Direct Adaptive Neural Control for Maximum Power Point Tracking of Photovoltaic System.** *Solar Energy*, **2015**, 115, pp. 145-165.
19. George Kyriakarakos, George Papadakis. **Polygeneration microgrids for residential applications.** In, *Handbook of Clean Energy Systems*, Jinyue Yan (Editor). John Wiley & Sons, **2015**
20. Essam Sh. Mohamed, George Papadakis. **Advances of renewable energy powered desalination.** In, *Handbook of Clean Energy Systems*, Jinyue Yan (Editor). John Wiley & Sons, **2015**
21. E. Dimitriou, E. Sh. Mohamed, G. Kyriakarakos, G. Papadakis. **Experimental investigation of the performance of a reverse osmosis desalination unit under full and part load operation.** *Desalination and Water Treatment*, **2015**, 53 (12), pp. 3170-3178.
22. G. Kosmadakis, D. Manolakos, G. Papadakis. **An investigation of design concepts and control strategies of a double-stage expansion solar organic Rankine cycle.** *International Journal of Sustainable Energy* **2015**, 34, (7), pp. 446-467.
23. B. F. Tchanche, M. Pétrissans, G. Papadakis. **Heat resources and organic Rankine cycle machines.** *Renewable and Sustainable Energy Reviews*. Volume 39, November **2014**, pp. 1185–1199
24. G. Kosmadakis, D. Manolakos, E. Ntavou, G. Papadakis. **Multiple Reverse Osmosis sub-units supplied by unsteady power sources for seawater desalination.** *Desalination and Water Treatment*, **2015**, 55 (11), pp. 3111-3119.
25. A.T. Balafoutis, E. Papageorgiou, Z. Dikopoulou, S. Fountas, G. Papadakis. **Sunflower oil fuel for diesel engines: Experimental investigation and optimum engine setting evaluation using Multi-Criteria Decision Making approach.** *International Journal of Green Energy* **2014**, 11 (6), pp. 642-673
26. C. Li, G. Kosmadakis, D. Manolakos, E. Stefanakos, G. Papadakis and Y. Goswami. **Performance investigation of concentrating solar collectors coupled with a transcritical organic Rankine cycle for power and seawater desalination co-generation.** *Desalination* **2013**, 318, pp. 107-117.
27. G. Kyriakarakos, D.D. Piromalis, A.I. Dounis, K.G. Arvanitis, G. Papadakis. **Intelligent demand side energy management system for autonomous polygeneration microgrids.** *Applied Energy* **2013**, 103, pp. 39-51.

28. G. Kyriakarakos, A. Dounis, K.G. Arvanitis, G. Papadakis. **A Fuzzy Cognitive Maps – Petri Nets Energy Management System for Autonomous Polygeneration Microgrids**. Applied Soft Computing Journal, **2012**, 12 (12) , pp. 3785-3797.
29. Kyriakarakos, G., Dounis, A.I., Arvanitis, K.G., Papadakis, G. **A fuzzy logic energy management system for polygeneration microgrids**. Renewable Energy, 41, **2012** : 315-327.
30. A. Balafoutis, S. Fountas, A. Natsis, and G. Papadakis. **Performance and emissions of sunflower, rapeseed and cotton seed oils as fuels in an agricultural tractor engine**. ISRN Renewable Energy, Volume 2011 (**2011**), Article ID 531510, 12 pages, doi:10.5402/2011/531510.
31. B.F. Tchanche, G. Lambrinos, A. Frangoudakis, G. Papadakis. **Low-grade heat conversion into power using organic Rankine cycles – A review of various applications**. Renewable & Sustainable Energy Reviews 15 (**2011**) 3963– 3979.
32. G. Kyriakarakos, A. Dounis, S. Rozakis, K. G. Arvanitis, G. Papadakis. **Polygeneration microgrids: A viable solution in remote areas for supplying power, potable water and hydrogen as transportation fuel**. Applied Energy, Vol. 88, Issue 12, December **2011**: 4517 - 4526.
33. G. Kosmadakis, D. Manolakos, G. Papadakis. **Simulation and economic analysis of a CPV/Thermal system coupled with an organic Rankine cycle for increased power generation**. Solar Energy, Volume 85, Issue 2, February **2011**, Pages 308-324.
34. G. Kosmadakis, D. Manolakos, G. Papadakis. **Parametric theoretical study of a two-stage solar organic Rankine cycle for RO desalination**. Renewable Energy, Volume 35, Issue 5, May **2010**, Pages 989-996.
35. B.F. Tchanche, Gr. Lambrinos, A. Frangoudakis and G. Papadakis. **Exergy analysis of micro-organic Rankine power cycles for a small scale solar driven reverse osmosis desalination system**. Applied Energy 87 (4) (**2010**), pp. 1295–1306.
36. G. Kosmadakis, D. Manolakos, S. Kyritsis, G. Papadakis. **Design of a two stage Organic Rankine Cycle system for reverse osmosis desalination supplied from a steady thermal source**. Desalination, Volume 250, Issue 1, 1 January **2010**, Pages 323-328.
37. B.F. Tchanche, G. Papadakis, G. Lambrinos and A. Frangoudakis. **Fluid selection for a low-temperature solar organic rankine cycle**. Applied Thermal Engineering, Volume 29, Issues 11-12, August **2009**, Pages 2468-2476.
38. D. Manolakos, G. Kosmadakis, S. Kyritsis, G. Papadakis. **Identification of Behaviour and Evaluation of Performance of Small Scale, Low Temperature Organic Rankine Cycle Process coupled with RO Desalination Unit**. Energy, Volume 34, Issue 6, June **2009**, Pages 767-774.
39. Michael Papapetrou, Essam Sh. Mohamed, Dimitris Manolakos, George Papadakis, Vicente J. Subiela, and Baltasar Peñate. **Operating Renewable Energy/Desalination Units**, (Chapter 10 pp 247-272). In, **Seawater Desalination. Conventional and Renewable Energy Processes**. Series: Green Energy and Technology. Cipollina, Andrea; Micale, Giorgio; Rizzuti, Lucio (Eds.). **2009**, XIV, 306 p. 135 illus., Hardcover, ISBN: 978-3-642-01149-8.
40. G. Kosmadakis, D. Manolakos, S. Kyritsis, G. Papadakis. **Simulation of an autonomous, two stages solar organic Rankine cycle system for reverse osmosis desalination**. Desalination and Water Treatment 1 (**2009**) 114–127.
41. G. Kosmadakis, D. Manolakos, S. Kyritsis, G. Papadakis. **Comparative thermodynamic study of refrigerants for a two stages organic Rankine cycle for RO desalination**. Desalination, 243, **2009** p. 74–94.
42. G. Kosmadakis, D. Manolakos, S. Kyritsis, G. Papadakis. **Economic assessment of a two-stage solar organic Rankine cycle for reverse osmosis desalination**. Renewable Energy, Volume 34, Issue 6, June **2009**, Pages 1579-1586.
43. Manolakos, G. Kosmadakis, S. Kyritsis, G. Papadakis. **On site experimental evaluation of a low temperature solar organic Rankine cycle for RO desalination**. Solar Energy, Volume 83, Issue 5, May **2009**, Pages 646-656.
44. I. Vallios, T. Tsoutsos, G. Papadakis. **Design of biomass district heating systems**. Biomass & Bioenergy, Volume 33, Issue 4, April **2009**, Pages 659-678.
45. D. Manolakos, Essam Sh. Mohamed, I. Karagiannis, G. Papadakis. **Technical and economic comparison between PV-RO system and RO-Solar Rankine system. Case study: Thirasia Island**. Desalination Volume 221, Issues 1-3, 1 March **2008**, p. 37-46.
46. E. Sh. Mohamed, G. Papadakis, E. Mathioulakis, V. Belessiotis. **A direct coupled photovoltaic seawater reverse osmosis desalination system toward battery based systems—a technical and**

- economical experimental comparative study.** Desalination, Volume 221, Issues 1-3, 1 March 2008, p. 17-22.
47. Voulgaraki S.I. and Papadakis G. **Simulation of a greenhouse solar heating system with seasonal storage in Greece.** ACTA HORTICULTURAE 2008, 801, 757-764.

Projects and funding

1. On-going 2017-2020. Scientific coordinator of the project funded by the European Commission, (ERASMUS plus). **Sustainable Farming (SFARM)**. Partners from Greece, Portugal, Italy, China, Lao, Vietnam, and Indonesia (total 12 partners). AUA budget 96045 EURO, project budget 997715 EURO.
2. On-going 2017-2019. Scientific coordinator of the H2020 project financed by the European Commission, **“Cloud-based simulation of desalination systems powered by renewables (DESAL)”**. The DESAL project is financed through the broader H2020 project **“Factories of the Future: Resources, Technology, Infrastructure and Services for Simulation and Modelling - FORTISSIMO 2”** of which coordinator is the Edinburgh University, UK. Partners from Greece and Slovenia. AUA budget 67500, project budget 142750.
3. On-going 2016-2018. Scientific coordinator of the project funded by the European Commission, (ERASMUS plus). **Skills Alliance for Sustainable Agriculture (SAGRI)**. Partners from Greece, Portugal and Italy (total 10 partners). AUA budget 123812 EURO, project budget 1037917 EURO.
4. 2015-2017. Scientific coordinator of the project funded by the European Economic Area – EEA, (consisted of 3 countries of the European Free Trade Association - Iceland, Liechtenstein and Norway): **Incorporation of Green Technologies in AUA campus. A total of 110 kWp photovoltaics (microgrid topology) and a pellets boiler of 30 kWth were installed at the AUA campus.** AUA budget 831072 EURO.
5. 2013-2015. Scientific partner of the project funded by the Greek General Secretary of Research and Development (GSRT): **Development of a small-scale low-temperature Supercritical Organic Rankine Cycle engine with optimised scroll expander and evaporator.** GSRT contribution 636896 EURO, AUA budget 222000 EURO.
6. 2012-2016. Scientific partner in the project funded by the European Commission (TEMPUS): **Solar energy system design using advanced learning aids.** Partners from Spain (co-ordinator), UK, Germany, Italy, Greece, Egypt. European Commission contribution 1090000 EURO, AUA budget 78000 EURO.
7. 2012-2015. Scientific coordinator of the project funded by the Greek General Secretary of Research and Development (GSRT): **Direct driven (battery-less) photovoltaic/wind turbine reverse osmosis desalination employing computational intelligence techniques (Smart Desalination).** AUA budget 448898 EURO.
8. 2013-2014. Scientific coordinator of the project funded by the European Commission, (FP7 SMEs): **Improving the Performance of Concentrating PV by Exploiting the Excess Heat through a Low Temperature Supercritical Organic Rankine Cycle.** Partners from Greece, Belgium, Spain, Sweden. European Commission contribution 950000 EURO, AUA budget 340000 EURO.
9. 2010-2014. Scientific coordinator of the project funded by the Greek General Secretary of Research and Development (GSRT): **Development and experimental evaluation of an autonomous two-stage solar organic Rankine cycle for reverse osmosis desalination of seawater (Two-stage RO-Rankine).** GSRT contribution 585000 EURO, AUA budget 250000 EURO.
10. 2010-2013. Scientific partner in the project funded by the European Commission: **Regional networks for the development of a sustainable market for bioenergy in Europe - Bioregions.** Program ALTENER-Intelligent Energy. Partners from Germany (coordinator), Austria, Bulgaria, Italy, Hungary, Poland, Holland, Denmark. European Commission contribution 1118538 EURO, AUA budget 60492 EURO.
11. 2007-2008. Scientific partner in the project funded by the Greek Ministry of Development: **Development of a renewable energy polygeneration system to produce electricity, drinkable water and hydrogen.** Project realised with the Greek company Tropical S.A. Project budget 270000 €, AUA budget 107000 €.

12. 2006-2010. Scientific coordinator of the project funded by the European Commission: **Hybrid renewable energy systems for supplying services in rural settlements of Mediterranean partner countries, (HYRESS)**. Programme FP6-INCO, Directorate Research. Partners from Germany, Spain, Egypt, Morocco, Tunisia. European Commission contribution 1250000 EURO, AUA budget 390000 EURO.
13. 2004-2007. Scientific coordinator of the project funded by the Greek Ministry of Education: **Experimental investigation of the use of non-esterified (crude) vegetable oils in internal combustion engines**. Project budget 80000 EURO, AUA budget 80000 EURO.
14. 2004-2006. Scientific coordinator of the project funded by the European Commission: **Development of an autonomous low-temperature solar rankine cycle system for reverse osmosis desalination (RO-SOLAR-RANKINE)**. FP6 project, Cooperative research SMEs. Partners from Germany, UK, Spain, Greece. European Commission contribution 1137500 EURO, AUA budget 415000 EURO.
15. 2003-2008. Scientific coordinator of the project funded by the European Commission: **Autonomous desalination system concepts for sea water and brackish water in rural areas with renewable energies, (ADIRA)**. EU-MEDA-WATER program. Partners from Germany, Egypt, Morocco, Spain, Jordan, Turkey. European Commission contribution 3412000 EURO, AUA budget 450000 EURO.
16. 2003-2007. Scientific partner in the project funded by the European Commission, Directorate Research: **Alternative fuels for industrial gas turbines**. Partners from France (coordinator), Portugal, Spain, Italy, UK, Sweden. European Commission contribution 3500000 EURO, AUA budget 145500 EURO.
17. 2003-2006. Scientific partner in the project funded by the EC: **Photovoltaics Enlargement**. FP5 project; Directorate General for Energy and Transport. Partners from Germany (coordinator), Austria, Bulgaria, Czech Republic, Hungary, Italy, Poland, Portugal, Romania. European Commission contribution 2170000 EURO, AUA budget 188000 EURO.
18. 1999-2001. Scientific coordinator of the project funded by the European Commission: **Development of an autonomous solar thermally driven distillation system**. DG XII, CRAFT. Partners from United Kingdom, Austria, Germany. European Commission contribution 1000000 EURO, AUA budget 500000 EURO.
19. 1997-2000. Scientific coordinator of the project funded by the European Commission: **Development and application of a water pumping system for remote areas consisted of photovoltaic modules with inverters integrated onto the modules and a new type of an asynchronous pump motor**. DG XII - DG XVII, INCO-COPERNICUS. Partners from France, Romania, Czech Republic, Bulgaria. European Commission contribution 1450000 EURO, AUA budget 385000 EURO.

Athens, February 2018