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|                         | <p><b>Curriculum vitae</b><br/> <b>Konstantinos Braimakis</b><br/> email : <a href="mailto:mpraim@mail.ntua.gr">mpraim@mail.ntua.gr</a><br/> Website: <a href="http://www.mech.ntua.gr/gr/braimakis">http://www.mech.ntua.gr/gr/braimakis</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Current position</b> | <p><b>September 2026 – present</b><br/> <b>Associate Professor</b><br/> National Technical University of Athens, Athens, Greece<br/> School of Mechanical Engineering, Section of Thermal Engineering<br/> Laboratory of Refrigeration, Air Conditioning &amp; Solar Energy</p> <p><b>March 2023 – September 2026</b><br/> <b>Assistant Professor</b><br/> National Technical University of Athens, Athens, Greece<br/> School of Mechanical Engineering, Section of Thermal Engineering<br/> Laboratory of Refrigeration, Air Conditioning &amp; Solar Energy</p> <p><b>December 2023 – present</b><br/> <b>Visiting Professor</b><br/> Huazhong University of Science &amp; Technology, Wuhan, China<br/> China-EU Institute for Clean and Renewable Energy (ICARE)</p> <p><b>Summary of academic and research activity</b></p> <ul style="list-style-type: none"> <li>• 49 publications in peer-reviewed journals</li> <li>• 2 books, 3 book chapters, 39 conference publications</li> <li>• 3094 citations, h-index 27, i10-index 38 on Google Scholar (06/06/2026)</li> <li>• 2346 citations, h-index 25 on Scopus (06/06/2026)</li> <li>• Participation in 20+ research projects, including 4 as Principal Investigator / Scientific Responsible for NTUA and/or Project Coordinator</li> <li>• Principal Investigator / Scientific Responsible for NTUA in 4 research projects, with a total NTUA budget of approximately €1.48 million</li> <li>• Project Coordinator of TES4Trig</li> <li>• Supervision of 19 completed diploma theses, 13 ongoing diploma theses, 2 PhD theses as main supervisor, and 3 as a member of three-member advisory committees</li> <li>• International teaching activity at ICARE/HUST and Solar-Institute Jülich</li> </ul> |
| <b>Education</b>        | <p><b>July 2013 – November 2018</b><br/> <b>PhD in Mechanical Engineering</b><br/> National Technical University of Athens, Athens, Greece<br/> School of Mechanical Engineering, Section of Thermal Engineering<br/> Laboratory of Steam Boilers and Thermal Plants</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|                                   | <p>Doctoral thesis: “Multi-scale thermo-economic optimization and thermodynamic assessment of energetic and exergetic efficiency improvement concepts of Organic Rankine Cycle systems”<br/>Supervisor: Prof. Sotirios Karellas</p> <p><b>September 2006 – February 2013</b><br/><b>Diploma in Mechanical Engineering, Grade: 8.06/10 ("Very Good")</b><br/>National Technical University of Athens, Athens, Greece<br/>School of Mechanical Engineering, Specialization in Energy</p> <p>Diploma thesis: “Techno-economic investigation of fast pyrolysis for the production of bio-oil as an energy carrier for biomass transportation to biorefineries”<br/>Diploma thesis grade: 10/10<br/>Supervisor: Prof. Sotirios Karellas</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Research experience</b></p> | <p><b>1. Previous academic and research appointments</b></p> <p><b>November 2018 – March 2023</b><br/><b>Postdoctoral Researcher</b><br/>National Technical University of Athens, Athens, Greece<br/>School of Mechanical Engineering, Section of Thermal Engineering<br/>Laboratory of Steam Boilers and Thermal Plants</p> <p>Research on Organic Rankine Cycle systems, waste heat recovery, thermal energy systems, energy storage, and techno-economic optimization.</p> <p><b>March 2014 – September 2014</b><br/><b>Visiting PhD Researcher</b><br/>University of Bayreuth, Bayreuth, Bavaria, Germany<br/>Lehrstuhl für Technische Thermodynamik und Transportprozesse (LTTT)</p> <p>Experimental and computational research on small-scale ORC waste heat recovery systems and zeotropic working-fluid mixtures.</p> <p><b>2. Research projects as Principal Investigator / Scientific Responsible</b></p> <p><b>CROONER, 2026–2030 (selected for funding; Grant Agreement under preparation)</b><br/>Critical Infrastructures Robust Operation for eNergy End-use Reliability<br/>Funding: Horizon Europe<br/>Role: Principal Investigator / Scientific Responsible for NTUA,<br/>NTUA budget: €443,812.50<br/>Scope of contribution: Design, techno-economic assessment and life-cycle analysis of reversible ORC–heat pump systems across multiple power scales and applications</p> |

**PUSH-CCC, GA 101115601, 2023 – 2027**

Pushing the limits of large-scale energy storage: optimized combined cycles

Funding: Horizon Europe / EIC Pathfinder Challenges,

Role: Principal Investigator / Scientific Responsible for NTUA,

NTUA budget: €255,587.50

Scope of contribution: Coordination of NTUA research activities on heat exchanger and storage system design across multiple temperature ranges for the adiabatic compressed air energy storage system

**ZHENIT, GA 955413, 2022 – 2026**

Zero waste Heat vessel towards relevant Energy savings also thanks to IT technologies

Funding: H2020,

Role: Principal Investigator / Scientific Responsible for NTUA

NTUA budget: €665,500.00

Scope of contribution: Coordination of NTUA research activities on the design and experimental demonstration of a prototype waste heat recovery unit, as well as on dynamic simulation and techno-economic assessment of the integrated system of technologies

**DECAGONE, GA 101069740, 2022 – 2026**

DEmonstrator of industrial CARbon-free power Generation from ORC-based waste-heat-to-Energy systems, Funding: Horizon Europe,

Role: Principal Investigator / Scientific Responsible for NTUA,

NTUA budget: €429,875.00

Scope of contribution: Coordination of NTUA research activities on part-load simulations and assessment of waste heat recovery potential in industrial applications

**TES4Trig, 2022 – 2026**

Thermal Energy Storage for On-Demand Trigenation

Funding: CSP-ERANET,

Role: Project Coordinator / Principal Investigator / Scientific Responsible for NTUA, NTUA budget: €133,753.00

Scope: Coordination of the overall research project and of NTUA research activities on the design and experimental demonstration of the solar trigeneration system

**3. Participation in research projects led by other Principal Investigators / Scientific Leads****REDREAM, GA 957837, 2020 – 2024**

Real consumer engagement through a new user-centric ecosystem development for end-users' assets in a multi-market scenario

Funding: H2020-EU.3.3.4

Role: Researcher

Scope of contribution: Techno-economic investigation of market scenarios

**LIFE RETRADEABLES, GA 63235100, 2020 – 2024**

Circular economy ecosystem to recover, recycle and re-use F-gases contributing to the depletion of greenhouse gases

Funding: LIFE Programme

Role: Researcher

Scope: Development of prototype units (requirements, testing, validation of measurements and equipment performance) for the identification and recycling of fluorinated gases (F-gases)

**REGENBY2, GA 851541, 2020 – 2026**

Next renewable multi-generation technology enables by two-phase fluids machines

Funding: H2020-EU.3.3.2

Role: Researcher

Scope of contribution: Development of a deterministic simulation model of the installation's two-phase expanders and analysis of experimental results

**RESPONSE, GA 957751, 2020 – 2026**

Integrated Solutions for positive energy and resilient cities

Funding: H2020-EU.3.3.1

Role: Researcher

Scope of contribution: Building energy performance simulations

**HYCOFLEX, GA 101138002, 2024 – 2027**

Hydrogen for cogeneration in flexible operation

Funding: HORIZON.2.5

Role: Researcher

Scope of contribution: Contribution to the development of techno-economic assessment models for green H2 production

**EULIST, 2023 – 2027**

European universities linking society and technology

Funding: Erasmus+ / European Universities Initiative

Role: Researcher

Scope of contribution: Dissemination of project results and communication activities in cooperation with the participating universities

**GREEN SHIPPING WITH ZERO CARBON FOOTPRINT, 2023 – 2025**

Funding: Flagship Action – NextGenerationEU

Role: Researcher

Scope of contribution: Data collection on waste heat potential across different vessel types

**SUSTAINABLE BIOMETHANE UPGRADING PROCESSES, 10890, 2025 – 2025**

Funding: Flagship Action – NextGenerationEU

Role: Researcher

Scope of contribution: Simulation of thermochemical biomethane synthesis processes

**HYBUILD, GA 768824, 2018 – 2022**

Innovative compact hybrid electrical/thermal storage systems for low-energy buildings

Funding: H2020-EU.3.3.2,

Role: Researcher

Scope of contribution: Life-cycle cost analysis of the technology

**SunClim, GA T1EDK-04359, 2019–2021**

Integrated solar cooling and heating system

Funding: General Secretariat for Research and Innovation (GSRI)

Role: Researcher

Scope of contribution: Design and experimental demonstration of the solar cooling installation

**ZEOSOL, GA 760210, 2017 – 2019**

Integrated solar heating and cooling system based on an innovative adsorption cooler with zeolite and heat pump,

Funding: H2020-FTI,

Role: Researcher

Scope of contribution: Techno-economic analysis of the solar cooling system and comparison with alternative technologies

**BIOCON-CO2, GA 761042, 2018 – 2021**

BIOTEchnological processes based on microbial platforms for the CONversion of CO<sub>2</sub> from iron and steel industry into commodities for chemicals and plastics

Funding: H2020,

Role: Researcher

Scope of contribution: Modelling of industrial processes

**SWS-Heating, GA 764025, 2018 – 2022**

Development and experimental calibration of an innovative compact solar selective water adsorption heating system

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|                     | <p>Funding: H2020<br/>Role: Researcher<br/>Scope of contribution: Contribution to experimental system demonstration</p> <p><b>BIOFFICIENCY, GA 727616, 2016 – 2019</b><br/>High-efficiency biomass thermal power plants with improved ash management<br/>Funding: H2020<br/>Role: Researcher<br/>Scope of contribution: Design, thermodynamic simulation and optimization of supercritical biomass power plants</p> <p><b>EXP-HEAT, GA 605923, 2013 – 2017</b><br/>Energy recovery in new and retrofitted heat pumps using a dedicated expander concept<br/>Funding: FP7-SME<br/>Role: Researcher<br/>Scope of contribution: Design of the experimental setup and experimental demonstration of the installation</p> <p><b>SORC, GA 11SYN_7_278, 2013 – 2015</b><br/>Development and experimental investigation of a small-scale supercritical ORC for low-temperature heat sources<br/>Funding: GSRT<br/>Role: Researcher<br/>Scope of contribution: Design of supercritical heat exchangers and experimental demonstration of the installation</p> <p><b>BIOTRIC, GA 4988, 2014 – 2015</b><br/>Investigation of the operation and design of a small-scale hybrid bio-trigeneration system based on the supercritical ORC cycle<br/>Funding: GSRT<br/>Role: Researcher<br/>Scope of contribution: Design and experimental demonstration of system operation</p> |
| Teaching experience | <p><b>1. Teaching experience in Greece</b></p> <p><b>March 2023 – present</b><br/>National Technical University of Athens, Athens, Greece<br/>School of Mechanical Engineering<br/>Undergraduate courses:</p> <ul style="list-style-type: none"> <li>• Thermal and Chemical Processes – 8th semester (sole teaching responsibility)</li> <li>• Basic Principles of Refrigeration – 8th semester (joint teaching responsibility)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

- Computational Methods for Transport Phenomena – 8th semester (joint teaching responsibility)
- Air Conditioning – 9th semester (joint teaching responsibility)
- Solar Energy – 9th semester (joint teaching responsibility)
- Energy Storage Systems – 9th semester (joint teaching responsibility)
- Thermal Behaviour of Buildings – 9th semester (joint teaching responsibility)
- New and Renewable Energy Sources – 7th semester (participation in lectures)

Teaching contribution: lectures, exercises, semester projects, student assessment, and development of teaching material, as applicable.

#### **March 2023 – present**

National Technical University of Athens, Athens, Greece

Interdepartmental Postgraduate Program “Energy Production and Management”

Postgraduate course:

- Solar Energy, Geothermal Energy, Biomass – 2nd semester (joint teaching responsibility)

Teaching contribution: lectures and development of teaching material.

#### **March 2024 – present**

National Technical University of Athens, Athens, Greece

Interdepartmental Postgraduate Program “Environment and Development”

Postgraduate course:

- Clean Technologies – 1st semester (joint teaching responsibility)

Teaching contribution: lectures and development of teaching material.

#### **October 2022 – June 2023**

School of Technical Education of Engineer Corps, Athens, Greece

Courses:

- Heat Transfer – 3rd and 4th semesters (sole teaching responsibility)
- Steam Generators and Thermal Power Plants – 3rd and 4th semesters (sole teaching responsibility)

Teaching contribution: lectures, exercises, assignments, and development of teaching material.

## **2. International teaching experience**

#### **2023 – present**

China-EU Institute for Clean and Renewable Energy (ICARE)

Huazhong University of Science & Technology, Wuhan, China

Courses:

Energy Efficiency Fundamentals (2023 – present) (joint teaching responsibility)

Biomass Technologies I (2026 – present) (joint teaching responsibility)

Teaching contribution: lectures, exercises, assignments, and development of teaching material.

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|                    | <p><b>2026 – present</b><br/>Solar-Institute Jülich, Aachen, Germany<br/>Course:</p> <ul style="list-style-type: none"> <li>• Carnot Kurs (participation in lectures)</li> </ul> <p>Teaching contribution: lecture and teaching material on dynamic simulation of solar thermal systems.</p> <p><b>3. Professional seminars</b></p> <p><b>2023 – present</b><br/>Seminars organized by Ideopsis, Cyprus</p> <ul style="list-style-type: none"> <li>• Energy Storage: Storage Technologies and their Role in the Energy Transition</li> <li>• Energy Storage Technoeconomics</li> </ul> <p><b>4. Contributions to textbooks and educational books</b></p> <p>National Technical University of Athens, Athens, Greece<br/>School of Mechanical Engineering</p> <ul style="list-style-type: none"> <li>• Member of the authoring team of the book “Power-to-X: Energy Storage Technologies,” used in the course “Energy Storage Systems.”</li> <li>• Contribution to Chapter 12, “Solar thermal power plants,” of the textbook “Decentralized Thermal Systems,” used in the 8th-semester undergraduate course “Decentralized Thermal Systems.”</li> <li>• Contribution to Chapter 2, “Thermodynamics of Thermal Power Plants,” of the textbook “Pollution Abatement Technology for Thermal Power Plants,” used in the 9th-semester undergraduate course of the same title.</li> </ul> |
| <b>Supervision</b> | <p><b>National Technical University of Athens, Athens, Greece</b><br/><b>School of Mechanical Engineering</b></p> <p>Diploma theses<br/>Completed: 19 diploma theses<br/>Ongoing: 13 diploma theses<br/>PhD theses<br/>Ongoing as main supervisor: 2 PhD theses</p> <ul style="list-style-type: none"> <li>• Alexandra Pavlidi, title: “Comparison of green hydrogen capture, transport and release methods based on environmental, exergetic and economic criteria”</li> <li>• Vasileios Doulas, title: “Modelling and techno-economic assessment of advanced heating and cooling systems”</li> </ul> <p>Ongoing as a member of three-member advisory committees: 5 PhD theses</p> <ul style="list-style-type: none"> <li>• Konstantinos Polychronakis, title: “Integrated Energy and Thermal Analysis of Solar Systems: Modelling of Environmental Parameters and Energy Management”</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                              | <ul style="list-style-type: none"> <li>• Evangelos Vidalis, title: “Design and analysis of advanced buildings adapted to new climate requirements using innovative materials and energy systems”</li> <li>• Christos Sammoutos, title: “Utilization of solar thermal energy in industrial applications and power generation”</li> <li>• Konstantinos Voutsas, title: “Biogas production and upgrading to biomethane through carbon dioxide capture techniques”</li> <li>• Anastasios Thomadakis, title: “Ammonia cracking as an enabler of sustainable hydrogen systems”</li> </ul> <p>Member of PhD thesis examination committees: 7 PhD theses</p> <p><b>National Technical University of Athens, Athens, Greece</b><br/> <b>Interdepartmental Postgraduate Program “Energy Production and Management”</b><br/> Master’s theses<br/> Completed: 1 Master’s thesis</p> <p><b>University of Antwerp, Antwerp, Belgium</b><br/> <b>Department of Engineering Management</b><br/> Co-supervision of 2 Master’s theses in collaboration with Assistant Professor Nimmegeers, University of Antwerp</p> <p><b>University of Lleida, Lleida, Spain</b><br/> <b>Department of Engineering Management</b><br/> PhD theses<br/> Member of examination committee: 1 PhD thesis</p> |
| <b>Administrative duties</b> | <p><b>2025 – present</b></p> <p>National Technical University of Athens, Athens, Greece<br/> School of Mechanical Engineering</p> <p>Erasmus Coordinator of the School of Mechanical Engineering<br/> Responsibilities: academic guidance for outgoing and incoming students, review and approval of Learning Agreements, course matching, and support for Erasmus+ mobility procedures and related EULiSt activities</p> <p>Member of the Innovation and Entrepreneurship Committee<br/> Responsibilities: participation in the Committee’s work on innovation, entrepreneurship, links with industry and other productive stakeholders, and strengthening the School’s outreach.</p> <p>Member of the Committee for Evaluation of PhD Applications in the Section of Thermal Engineering</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|                                            | Responsibilities: evaluation of applications from prospective PhD candidates and assessment of the alignment of proposed topics with the subject areas of the Section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Scientific and professional service</b> | <p><b>1. Editorial activities</b></p> <ul style="list-style-type: none"> <li>• Editorial Board Member, Knowledge Center on Organic Rankine Cycle (KCORC), 2020 – present.</li> <li>• Guest Editor, Special Issue “37th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems 2024,” Energy Conversion and Management, 2024.</li> <li>• Guest Editor, Special Issue “37th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems 2024,” Energy, 2024.</li> <li>• Guest Editor, Special Issue “Planning and Management of Buildings’ Energy and Environmental Efficiency in Urban Environment,” Energies, 2023.</li> <li>• Guest Editor, Special Issue “Energy Storage and Electric Power Systems: Theory, Methods, and Applications,” Applied Sciences, 2023.</li> <li>• Guest Editor, Special Issue “ORC Energy Systems,” Energy, 2020.</li> <li>• Guest Editor, Special Issue “ORC in Renewable Energy Systems,” Renewable Energy, 2020.</li> <li>• Guest Editor, Special Issue “Hybrid Energy Recovery, Storage and Utilization in Buildings and Industrial Applications,” Thermo, 2020.</li> </ul> <p><b>2. Conference scientific and review committees</b></p> <ul style="list-style-type: none"> <li>• Member, Review Committee, ORC2021, 6th International Seminar on ORC Power Systems, Munich, Germany, 2021.</li> <li>• Member, Scientific Committee, ORC2019, 5th International Seminar on ORC Power Systems, Athens, Greece, 2019.</li> <li>• Member, Review Committee, ORC2017, 4th International Seminar on ORC Power Systems, Milan, Italy, 2017.</li> </ul> <p><b>3. Journal reviewing</b></p> <ul style="list-style-type: none"> <li>• Reviewer for international scientific journals, including Renewable and Sustainable Energy Reviews, Energy, Renewable Energy, and Applied Thermal Engineering.</li> </ul> |

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|              | <p><b>4. Professional memberships and technical working groups</b></p> <ul style="list-style-type: none"> <li>• Member, Technical Chamber of Greece, 2013 – present.</li> <li>• Member, VGB PowerTech e.V. Working Group on CHP technologies.</li> <li>• Member, Technical Chamber of Greece Working Group for Technical Directive TOTEE 20701-5/2017, “Combined production of electricity, heating and cooling: building installations.”</li> </ul> <p><b>5. Evaluation of research proposals and projects</b></p> <ul style="list-style-type: none"> <li>• Member of the Evaluation Committee for research project funding applications, Thematic Area “7. Sustainable Energy” of Intervention I: “Research and Development by Enterprises” under the Action “Research – Innovate” of the “Competitiveness” Program, NSRF 2021–2027 (Call Code: 08KE – MIS Code: 9833).</li> <li>• Evaluator for project implementation under the action “Funding of Innovation – HORIZON 2020.”</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   |
| Publications | <p>ORCID: <a href="https://orcid.org/0000-0001-9489-8322">https://orcid.org/0000-0001-9489-8322</a><br/> Scopus Author ID: <a href="https://www.scopus.com/pages/authors/56165983700">https://www.scopus.com/pages/authors/56165983700</a><br/> Google Scholar: <a href="https://scholar.google.com/citations?user=Gkx11nQAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=Gkx11nQAAAAJ&amp;hl=en</a></p> <p>Google Scholar citations (04/06/2026): 3094, h-index: 27, i10-index: 38<br/> Scopus citations (26/05/2026): 2346, h-index: 25</p> <p><b>Summary of publications</b><br/> Books: 2<br/> Book chapters: 3<br/> Publications in peer-reviewed scientific journals: 49<br/> Conference publications: 39<br/> Dissertations: 2<br/> Reports and other documents: 2</p> <p><b>1. Books</b></p> <p>[1] Karellas S., Roumpedakis T, Tzouganatos, <b>Braimakis K</b>, Solar Cooling Technologies. CRC Press; 2018. <a href="https://doi.org/10.1201/9781315163178">https://doi.org/10.1201/9781315163178</a></p> <p>[2] Karellas S., Kakaras E., <b>Braimakis K</b> , Power-to-X: Energy Storage Technologies, Tsotras, 2026</p> <p><b>2. Book chapters</b></p> <p>[1] <b>Braimakis K</b>, Roumpedakis T, Leontaritis A-D, Karellas S. Comparison of Environmentally Friendly Working Fluids for Organic Rankine Cycles. In: Minea A, editor.</p> |

Advances in New Heat Transfer Fluids: CRC Press; 2017.  
<https://doi.org/10.1201/9781315368184>

[2] Roumpedakis T, Vlavakis P, **Braimakis K**, Grimekis D and Karellas S. Hydrogen Production and Storage In: Rogdakis, Irene P. Koronaki Editors. Recent Advances in Renewable Energy Volume 3: Renewable Energy Engineering: Solar, wind, biomass, hydrogen and geothermal energy systems; 2018.

[3] **Braimakis K**, Karellas S, in Desideri U, Ferrari L editors Small Scale Power Generation Handbook Towards Distributed Energy Systems, 1<sup>st</sup> Edition, Academic Press; 2025.  
<https://doi.org/10.1016/C2019-0-03176-7>

### 3. Publications in peer-reviewed journals

[1] **K. Braimakis**, K. Atsonios, K.D. Panopoulos, S. Karellas, E. Kakaras, Economic evaluation of decentralized pyrolysis for the production of bio-oil as an energy carrier for improved logistics towards a large centralized gasification plant, Renewable and Sustainable Energy Reviews, 35 (2014) 57-72. <https://doi.org/10.1016/j.rser.2014.03.052>

[2] **Braimakis K**, Preißinger M, Brüggemann D, Karellas S, Panopoulos K. Low grade waste heat recovery with subcritical and supercritical Organic Rankine Cycle based on natural refrigerants and their binary mixtures. Energy. 2015;88:80-92.  
<https://doi.org/10.1016/j.energy.2015.03.092>

[3] Karellas S, **Braimakis K**. Energy–exergy analysis and economic investigation of a cogeneration and trigeneration ORC–VCC hybrid system utilizing biomass fuel and solar power. Energy Conversion and Management. 2016;107:103-13.  
<https://doi.org/10.1016/j.enconman.2015.06.080>

[4] Kalogirou SA, Karellas S, Badescu V, **Braimakis K**. Exergy analysis on solar thermal systems: A better understanding of their sustainability. Renewable Energy. 2016;85:1328-33. <https://doi.org/10.1016/j.renene.2015.05.037>

[5] Kalogirou SA, Karellas S, **Braimakis K**, Stanciu C, Badescu V. Exergy analysis of solar thermal collectors and processes. Progress in Energy and Combustion Science. 2016;56:106-37. <https://doi.org/10.1016/j.pecs.2016.05.002>

[6] **Braimakis K**, Karellas S. Integrated thermo-economic optimization of standard and regenerative ORC for different heat source types and capacities. Energy. 2017;121:570-98.  
<https://doi.org/10.1016/j.energy.2017.01.042>

[7] **Braimakis K**, Thimo A, Karellas S. Techno-economic Analysis and Comparison of a Solar-Based Biomass ORC-VCC System and a PV Heat Pump for Domestic Trigeneration. Journal of Energy Engineering. 2017;143(2):04016048.  
[https://doi.org/10.1061/\(ASCE\)EY.1943-7897.0000397](https://doi.org/10.1061/(ASCE)EY.1943-7897.0000397)

[8] Han X, Karellas S, Liu M, **Braimakis K**, Chen W, Yan J, et al. Integration of Organic Rankine Cycle with Lignite Flue Gas Pre-drying for Waste Heat and Water Recovery from Dryer Exhaust Gas: Thermodynamic and Economic Analysis. Energy Procedia. 2017;105:1614-21. <https://doi.org/10.1016/j.egypro.2017.03.518>

- [9] T.C. Roumpedakis, S. Chapaloglou, P. Pallis, A.-D. Leontaritis, **K. Braimakis**, S. Karellas, P. Vourliotis, Experimental Investigation and CFD Analysis of Heat Transfer in Single Phase Subcooler of a Small Scale Waste Heat Recovery ORC, *Energy Procedia*, 129 (2017) 487-494. <https://doi.org/10.1016/j.egypro.2017.09.166>
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[39] P. Antzoulatos, N. Skordoulis, **K. Braimakis**. Impact of electrolyser dynamics and high-resolution solar variability on the optimal design and economic profitability of renewable hydrogen systems. 39th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems – ECOS 2026 was held from 28<sup>th</sup> June to 3<sup>rd</sup> July 2026 in Constanța, Romania

## 5. Dissertations

[1] Techno-economic investigation of fast pyrolysis for the production of bio-oil as an energy carrier for biomass transportation to biorefineries

[2] Multi-scale thermo-economic optimization and thermodynamic assessment of energetic and exergetic efficiency improvement concepts of organic Rankine cycle

## 6. Reports and other documents

[1] E. Kakaras, S. Karellas, A-D. Leontaritis, **K. Braimakis**, V. Vrangos, A. Doukelis, Long term prospects of CHP, <https://www.vgb.org/vgbmultimedia/FE398.pdf>

[2] T. de Riese, L. Hansen, D. Magiri-Skouloudi, **K. Braimakis**, L. Clemens, C. Bergins, S. Fendt, S. Karellas, H. Spliethoff, The Bioefficiency Project Part 2: A Blueprint Design for the Next Generation of Biomass-Fired Cogeneration Plants.

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|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Awards and distinctions</b> | <ul style="list-style-type: none"> <li>• 2018: Dimitris N. Chorafas Foundation Award in Physics for mature and innovative research conducted as part of the doctoral thesis.</li> <li>• 2014–2018: Thomaidio Foundation Award for publications in scientific journals in 2014, 2015, 2016, 2017 and 2018.</li> <li>• 2013: Knowledge Center on Organic Rankine Cycle (KCORC) scholarship for participation in research activities at the University of Bayreuth as part of the doctoral thesis, in 2014.</li> </ul> |
| <b>Languages</b>               | <p><b>English: Excellent command</b></p> <ul style="list-style-type: none"> <li>• Certificate of Proficiency in English, University of Cambridge (Level C2)</li> <li>• Certificate of Proficiency in English, University of Michigan (Level C2)</li> </ul> <p><b>French: Excellent command</b></p> <ul style="list-style-type: none"> <li>• Diplôme Approfondi de Langue Française (DALF), Level C2</li> </ul>                                                                                                      |
| <b>Software</b>                | MATLAB, AspenPlus, Python, IpsePro, Mathcad, AutoCAD, Fortran, EES                                                                                                                                                                                                                                                                                                                                                                                                                                                  |