Curriculum vitae
Konstantinos Braimakis
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Current position

March 2023-Today
Assistant Professor
National Technical University of Athens, Athens, Greece
School of Mechanical Engineering, Section of Thermal Engineering
Laboratory of Refrigeration, Air Conditioning & Solar Energy

Visiting Professor
China-EU Institute for Clean and Renewable Energy (ICARE)
Huazhong University of Science & Technology, Wuhan, China

November 2018-March 2023
Postdoctoral Researcher
National Technical University of Athens, Athens, Greece
School of Mechanical Engineering,
Laboratory of Steam Boilers and Thermal Plants, Laboratory of Thermal Processes

Coordinator-Principal investigator:

Principal investigator:

- ***PUSH-CCC, GA 101115601. Funding: H2020-EIC-PATHFINDERCHALLENGES-01-02. Project title: "Pushing the limits of large-scale energy storage: optimized combined cycles". Project duration: 2023-2027. Project role: Partner.*** *PUSH-CCC proposes to solve the key existing limits of Compressed Air Energy Storage (CAES) scalability, replicability, efficiency, and energy density while boosting its cost-effective commercial development in Europe by bringing a breakthrough CAES concept to TRL4, which is based on a novel optimized integration of advanced technology and scientific advances beyond the state of the art, pushing the efficiency and profitability of the volatile-fluid-based isobaric adiabatic Combined Cycle CAES (CCC) a scientifically proven high-potential concept due to the enhancement of turbomachinery efficiency and cavern volume minimization*

- ***ZHENIT, GA 955413. Funding: H2020-EU.3.4. Project title: "Zero waste Heat vessel towards relevant ENergy savings also thanks to IT technologies". Project duration: 2022-2026. Project role: Partner.*** *ZHENIT overall objective is to promote Waste Heat Recovery (WHR) as key and "ready-to-implement" solutions to achieve 2030 IMO/EU targets for shipping sector decarbonization. ZHENIT goal is to fully untap "on-board WH potential" developing and validating WHR solutions at different temperature levels towards the exploitation of WH for different on-board services (cooling, power, desalination. Website:* https://www.zhenit.eu

Education	**July 2013-November 2018** **PhD student-Researcher** National Technical University of Athens, Athens, Greece School of Mechanical Engineering, Laboratory of Steam Boilers and Thermal Plants Completion of doctoral thesis entitled "Multi-scale thermo-economic optimization and thermodynamic assessment of energetic and exergetic efficiency improvement concepts of organic Rankine cycle» **September 2006-February 2013** **Diploma of Mechanical Engineering, Graduation Degree: 8.06/10 ("Very Good")** National Technical University of Athens, Athens, Greece School of Mechanical Engineering, Specialization in Energy Diploma Thesis Title: "Techno-economic investigation of fast pyrolysis for the production of bio-oil as an energy carrier for biomass transportation to biorefineries" Thesis Supervisor: Prof. Sotirios Karellas, Grade of Diploma Thesis: 10/10 **2002 - 2006** **High school diploma, Graduation grade: 19.7/20 ("Excellent")** 2nd Arsakeio High School of Psychiko, Psychiko, Greece
Research experience	**Principal Investigator**: • SunClim, GA: T1EΔK-04359 (Funding: General Secretariat of Funding and Innovation – GSRI, Budget 190.887 €), «SunClim: Integrated solar cooling and heating system » (2019-2021). Project description: Development of domestic solar cooling and heating system based on ejector cooling cycle and vapor compression cycle • HYBUILD, GA: 768824 (Funding: H2020-EU.3.3.2, Buget 5.995.840 €), « Innovative compact HYbrid electrical/thermal storage systems for low energy BUILDings » (2018-2022), http://www.hybuild.eu/. HYBUILD aims at developing cost-effective and environmental-friendly solutions, while ensuring comfort conditions in residential buildings located in two different climates: Mediterranean climate where cooling is critical; and Continental climate where a stronger focus is put on heating demand. • TES4Trig, (Funding: CSP-ERANET, Total budget: 1.005.909 €), "Thermal Energy Storage for On-Demand Trigeneration» (2021-2023). Partners: "National Centre of Scientific Research "Demokritos" Solar and other energy systems laboratory, Aachen University of Applied Sciences Solar-Institut Jülich, CADE Soluciones de Ingeniería, S.L., Protarget AG, MES ENERGY S.A. Project description: Development and demonstration of solar trigeneration system driven by parabolic trough collectors with thermal energy storage • DECAGONE, GA 101069740. Funding: H2020-EU.2.5. Project title: "DEmonstrator of industrial CArbon-free power Generation from Orc-based waste-heat-to-Energy systems". Project duration: 2022-2026. Project role: Partner. The overall objective of DECAGONE is to develop an innovative technology for the exploitation of industrial waste heat.The proposed key-innovations will make ORC systems more efficient, more

cost-effective, and adaptable to more diverse sectors for broad industrial uptake. They will be demonstrated by a 2 MW unit integrated into a steel production plant, located in Třinec, Czech Republic and owned by Třinecké železárny, mother company of partner Energetika Třinec. Website: https://decagone.eu/

November 2012-November 2018

PhD Candidate, Researcher

National Technical University of Athens, Athens, Greece

School of Mechanical Engineering, Laboratory of Steam Boilers and Thermal Plants

Research in the simulation, optimization and development of energy production systems from waste heat and renewable sources based on the Rankine Organic Instrument Cycle (ORC) in the context of the PhD thesis.

Participation in Research Projects:

- ZEOSOL, GA 760210 (Funding: H2020-FTI-2016), "Integrated solar heating and cooling system based on an innovative adsorption cooler with zeolite and heat pump" (2017-2019), http://zeosol.eu/. In this project, an innovative solar cooling and heating system was developed through the combination of an adsorption cooler and a heat pump.
- BIOCONCO2, GA 761042 (Funding: H2020-EU.2.1.4., Budget 6.999.886,25 € "BIOtechnological processes based on microbial platforms for the CONversion of CO2 from ironsteel industry into commodities for chemicals and plastics (2018-2021), https://cordis.europa.eu/project/id/761042. The main objective of BIOCON-CO2 is to develop and validate in industrially relevant environment a flexible platform to biologically transform CO2 into added-value chemicals and plastics. The versatility and flexibility of the platform, based on 3 main stages (CO2 solubilization, bioprocess and downstream) will be proved by developing several technologies and strategies for each stage that will be combined as puzzle pieces.
- SWS-Heating, GA 764025 (Funding: H2020-EU.3.3.2), "Development and experimental calibration of an innovative compact solar selective water adsorption heating system" (2018-2022), http://www.swsheating.eu/ The project is to be developed an innovative seasonal thermal storage system through an innovative layout and new adsorption materials.
- BIOFFICIENCY, GA 727616 (Funding: H2020-EU.3.3.2), "High efficiency biomass thermal power plants with ash management problems management" (2016-2019), https://ec.europa.eu/inea/en/ horizon-2020 / projects / h2020-energy / combined-heat-and-power / biofficiency In this project, the possibilities of dealing with ash management issues in biomass thermal power plants with the aim of operating them at higher temperatures were studied.
- BIOTRIC, GA 4988 (Funding: General Secretariat for Research and Technology - GSRT), "Investigation of the operation and design of a small-scale hybrid bio-triple production system based on the supercritical ORC cycle" (2014-2015). The aim of the project was to develop a home three-generation system through the implementation of a supercritical ORC cycle connected to a biomass-powered steam compression (VCC) cycle.

	• EXP-HEAT, GA 605923. (Funding: FP7-SME, Budget 1.773.520 €), " Energy recovery in new and retrofitted heat pumps using a dedicated expander concept" (2013-2017). *https://cordis.europa.eu/project/id/605923/reporting/de* The main concept of the EXP-HEAT project is to replace the throttle or expansion valve used in common vapour-compression units with an expansion machine. Its purpose is to recover energy from the high-pressure liquid (condensed) refrigerant and provide it to the compressor, reducing its electricity consumption. • SORC, GA 11SYN_7_278 (Funding: General Secretariat for Research and Technology - GSRT), "Development and experimental investigation of a small scale (5-10 kWe) supercritical ORC for utilization of low temperature heat sources (80-100 ° C)" (2013-2015) , http : //www.kcorc.org/en/rd-projects/supercritical-orc/ In this project, a small-scale, low temperature ORC system was developed and investigated experimentally. **March 2014-September 2014** **PhD Candidate, Researcher** University of Bayreuth, Bayreuth, Bavaria, Germany Lehrstuhl für Technische Thermodynamik und Transportprozesse (LTTT) Research in the experimental operation of a small-scale waste heat recovery unit based on ORC and the computational optimization of subcritical and supercritical ORCs operating with binary zeotropic mixtures as working fluids. **January 2012– February 2013** **Undergraduate student** National Technical University of Athens, Athens, Greece School of Mechanical Engineering, Laboratory of Steam Boilers and Thermal Plants Research in the techno-economic evaluation of fast pyrolysis for the production of bio-oil and in the supply chains of biofuels in the context of the Diploma Thesis.
Teaching	**March 2023-Today** School of Mechanical Engineering National Technical University of Athens, Athens, Greece Undergraduate Courses • Thermal and Chemical Processes • Computational Methods for Transport Phenomena • Air-Conditioning • Solar Energy • Basic Principles of Refrigeration • Energy Storage Systems • Thermal Energy in Buildings • New and Renewable Energy Sources

IPS “Energy Production and Management”
National Technical University of Athens, Athens, Greece

- Solar Energy, Geothermal Energy, Biomass

2026 - Today
Solar-Institute Jülich, Aachen, Germany

- Carnot Kurs

2023 - Today
China-EU Institute for Clean and Renewable Energy (ICARE)
Huazhong University of Science & Technology, Wuhan, China

- Energy Efficiency Fundamentals

2026 - Today
China-EU Institute for Clean and Renewable Energy (ICARE)
Huazhong University of Science & Technology, Wuhan, China

- Biomass Technology I

2023 - Today
Seminars organized by Ideopsis, Cyprus

- Energy Storage: Storage Technologies and their Role in the Energy Transition
- Energy Storage Technoeconomics

October 2022-June 2023
School of Technical Education of Engineer Corps, Athens, Greece

- Heat Transfer
- Steam Boilers and Power Plants

February 2013-March 2023
National Technical University of Athens, Athens, Greece

- Computational project development, laboratory course lectures, support of students in “Steam Rankine Power Plants and Laboratory I” of the 5th semester of the undergraduate programme of the School of Mechanical Engineering in academic year 2013-2014
- Lectures on decentralized solar energy systems in for the course “Thermal power production in Steam Rankine Power Plants and Laboratory” of the 5th semester of the undergraduate programme of the School of Mechanical Engineering in academic year 2015-2019
- Contribution in computational project development for the course “Thermal Energy Conversion Plants” of the 5th semester of the undergraduate programme of the School of Mechanical Engineering in academic year 2020-2021
- Lectures on theory and solution of exercises for the course “Thermal Engines” of the winter semester of the graduate programme “Energy Production and Management” of NTUA in academic years 2016-2020

	• Lectures on theory and solution of exercises for the course "Thermal Engines II" of the spring semester of the graduate programme "Energy Production and Management" of NTUA in academic years 2016-2020 • Solution of exercises on CHP for the course "Decentralized Energy Production" of the spring semester of the graduate programme "Energy Production and Management" of NTUA in academic years 2016-2020 • Solution of exercises for the course "Thermal Power Plants and CHP" of the graduate programme "Energy Production and Management" of NTUA in academic years 2020-2021 • Support of sixteen (16) undergraduate theses of the Laboratory of Steam Boilers and Thermal Plants of the School of Mechanical Engineering and five (5) theses of the graduate programme "Energy Production and Management" of NTUA • Contribution in Chapter 12 "Solar thermal power plants" of the textbook "Decentralized Thermal Systems" that is used for the undergraduate course of the 8th semester of the School of Mechanical Engineering. • Contribution in Chapter 2 "Thermodynamics of Thermal Power Plants" of the textbook "Pollution Abatement in Power Plants" that is used for the undergraduate course of the 9th semester of the School of Mechanical Engineering.
Supervision	**2023 - Today** School of Mechanical Engineering National Technical University of Athens, Athens, Greece • Supervision of 18 completed Undergraduate Theses • Supervision of 2 completed Post Graduate Theses • Supervision of 12 ongoing Undergraduate Theses • Supervision of 2 ongoing PhD Theses • Co-supervision of 3 ongoing PhD Theses • Member of the Evaluation Committee of 5 Completed PhD Theses
Administrative duties	**2025-Today** School of Mechanical Engineering National Technical University of Athens, Athens, Greece • Erasmus Coordinator • Member of the PhD Applications Evaluation Committee of the Thermal Section
Scientific Committees	• Technical Chamber of Greece, 2013-Today • Editorial Board of Knowledge Center of Organic Rankine Cycle (KCORC), http://www.kcorc.org/en/, 2020-Today

	• Guest Editor in Special Issue of Energy Conversion and Management Journal Special Issue "37th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems 2024", 2024 • Guest Editor in Special Issue of Energy Journal Special Issue "37th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems 2024", 2024 • Guest Editor in Special Issue of Energies Journal Special Issue "Planning and Management of Buildings' Energy and Environmental Efficiency in Urban Environment", 2023 • Guest Editor in Special Issue of Applied Sciences journal "Energy Storage and Electric Power Systems: Theory, Methods, and Applications", 2023 • Guest Editor in Special Issue of Energy journal "ORC Energy Systems", 2020 • Guest Editor in Special Issues of Renewable Energy journal, "ORC in Renewable Energy Systems", 2020 • Guest Editor in Special Issue of Thermo journal, "Hybrid Energy Recovery, Storage and Utilization in Buildings and Industrial Applications", 2020 • Member in the Review Committee of ORC2021 6th International Seminar on ORC Power Systems, Munich, Germany, 2021 • Member of the Scientific Committee of ORC2019 5th International Seminar on ORC Power Systems, Athens, Greece, 2019 • Member of the Review Committee of ORC2017 4th International Seminar on ORC Power Systems, Milan, Italy, 2017 • Reviewer in international scientific journals: Renewable and Sustainable Energy Reviews (Impact factor: 12.110), Energy (Impact factor: 6.082), Renewable Energy (Impact factor: 6.274), Applied Thermal Engineering (Impact factor: 4.725) • Member of the VGB PowerTech e.V Workgroup on CHP technologies • Member of the Technical Chamber of Greece Workgroup for Technical Directive T.O.T.E.E. 20701-5/2017, Combined production of Electricity, Heating and Cooling: Building installations
Publications	**Summary of publications** Books: 2 Book chapters: 3 Publications in peer-reviewed international scientific journals: 40 Publications in international conferences with abstract review: 2 Publications in international conferences with full-text review: 30 Dissertations: 2 Reports and other documents: 1 **Google scholar citations: 2946, h-index: 26, i10-index:37**

Scopus citation: 2211, h-index: 23

Books

[1] Karellas S., Roumpedakis T, Tzouganatos, **Braimakis K**, Solar Cooling Technologies. CRC Press; 2018. https://doi.org/10.1201/9781315163178

[2] Karellas S., Kakaras E., **Braimakis K** , Power-to-X: Energy Storage Technologies, Tsotras, 2026

Book Chapters

[1] **Braimakis K**, Roumpedakis T, Leontaritis A-D, Karellas S. Comparison of Environmentally Friendly Working Fluids for Organic Rankine Cycles. In: Minea A, editor. 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, 1st Edition, Academic Press; 2025

Publications in peer-reviewed international scientific 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

[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

[10] **Braimakis K**, Karellas S. Exergetic optimization of double stage Organic Rankine Cycle (ORC). Energy. 2018;149:296-313. https://doi.org/10.1016/j.energy.2018.02.044

[11] **Braimakis K**, Karellas S. Energetic optimization of regenerative Organic Rankine Cycle (ORC) configurations. Energy Conversion and Management. 2018;159:353-70. https://doi.org/10.1016/j.enconman.2017.12.093

[12] S. Staub, P. Bazan, **K. Braimakis**, D. Müller, C. Regensburger, D. Scharrer, B. Schmitt, D. Steger, R. German, S. Karellas, M. Pruckner, E. Schlücker, S. Will, J. Karl, Reversible Heat Pump–Organic Rankine Cycle Systems for the Storage of Renewable Electricity, Energies 11(6) (2018) 1352. https://doi.org/10.3390/en11061352

[13] T.C. Roumpedakis, T. Christou, E. Monokrousou, **K. Braimakis**, S. Karellas, Integrated ORC-Adsorption cycle: A first and second law analysis of potential configurations, Energy, 179 (2019) 46-58. https://doi.org/10.1016/j.energy.2019.04.069

[14] Pallis P, Gkonis N, Varvagiannis E, **Braimakis K**, Karellas S, Katsaros M, Cost effectiveness assessment and beyond: A study on energy efficiency interventions in Greek residential building stock. Energy and Buildings. 2019;182:1-18. https://doi.org/10.1016/j.enbuild.2018.10.024

[15] Pallis P, Gkonis N, Varvagiannis E, **Braimakis K**, Karellas S, Katsaros M, et al. Towards NZEB in Greece: A comparative study between cost optimality and energy efficiency for newly constructed residential buildings. Energy and Buildings. 2019;198:115-37. https://doi.org/10.1016/j.enbuild.2019.06.005

[16] **Braimakis K**, Magiri-Skouloudi D, Grimekis D, Karellas S. Energy-exergy analysis of ultra-supercritical biomass-fuelled steam power plants for industrial CHP, district heating and cooling. Renewable Energy. 2020;154:252-69. https://doi.org/10.1016/j.renene.2020.02.091

[17] **Braimakis, K**., et al., Exergetic performance of CO2 and ultra-low GWP refrigerant mixtures as working fluids in ORC for waste heat recovery. Energy, 2020: p. 117801. https://doi.org/10.1016/j.energy.2020.117801

[18] Roumpedakis TC, Loumpardis G, Monokrousou E, **Braimakis K**, Charalampidis A, Karellas S. Exergetic and economic analysis of a solar driven small scale ORC. Renewable Energy. 2020;157:1008-24. https://doi.org/10.1016/j.renene.2020.05.016

[19] **K. Braimakis**, Solar ejector cooling systems: A review, Renewable Energy 164 (2021) 566-602.https://doi.org/10.1016/j.renene.2020.09.079

[20] S. Georgousopoulos, **K. Braimakis**, D. Grimekis, S. Karellas, Thermodynamic and techno-economic assessment of pure and zeotropic fluid ORCs for waste heat recovery in a biomass IGCC plant, Applied Thermal Engineering 183 (2021) 116202. https://doi.org/10.1016/j.applthermaleng.2020.116202

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

[22] **Braimakis K**, Grispos V, Karellas S. Exergetic efficiency potential of double-stage ORCs with zeotropic mixtures of natural hydrocarbons and CO2. Energy. 2021;218:119577. https://doi.org/10.1016/j.energy.2020.119577

[23] Pallis P, Varvagiannis E, **Braimakis K**, Roumpedakis T, Leontaritis AD, Karellas S. Development, experimental testing and techno-economic assessment of a fully automated marine organic rankine cycle prototype for jacket cooling water heat recovery. Energy. 2021;228:120596. https://doi.org/10.1016/j.energy.2021.120596

[24] Roumpedakis, T.C.; Fostieris, N.; **Braimakis, K**.; Monokrousou, E.; Charalampidis, A.; Karellas, S. Techno-Economic Optimization of Medium Temperature Solar-Driven Subcritical Organic Rankine Cycle. Thermo 2021, 1, 77-105. https://doi.org/10.3390/thermo1010007

[25] Pallis, P.; **Braimakis, K**.; Roumpedakis, T.C.; Varvagiannis, E.; Karellas, S.; Doulos, L.; Katsaros, M.; Vourliotis, P. 26. Energy and economic performance assessment of efficiency measures in zero-energy office buildings in Greece. Building and Environment, 2021. 206: p. 108378. https://doi.org/10.1016/j.buildenv.2021.108378

[26] **K. Braimakis**, A. Charalampidis, S. Karellas, Techno-economic assessment of a small-scale biomass ORC-CHP for district heating, Energy Conversion and Management 247 (2021) 114705. https://doi.org/10.1016/j.enconman.2021.114705

[27] V. Kontou, D. Grimekis, **K. Braimakis**, S. Karellas, Techno-economic assessment of dimethyl carbonate production based on carbon capture and utilization and power-to-fuel technology. Renewable and Sustainable Energy Reviews, 2022. 157: p. 112006. https://doi.org/10.1016/j.rser.2021.112006

[28] **Braimakis K**, Karellas S. Exergy efficiency potential of dual-phase expansion trilateral and partial evaporation ORC with zeotropic mixtures. Energy. 2023;262:125475. https://doi.org/10.1016/j.energy.2022.125475

[29] Wieland C, Schifflechner C, **Braimakis K**, Kaufmann F, Dawo F, Karellas S, et al. Innovations for organic Rankine cycle power systems: Current trends and future perspectives. Applied Thermal Engineering. 2023;225:120201. https://doi.org/10.1016/j.applthermaleng.2023.120201

[30] Stavrakakis GM, Katsaprakakis DA, **Braimakis K**. A Computational Fluid Dynamics Modelling Approach for the Numerical Verification of the Bioclimatic Design of a Public Urban Area in Greece. Sustainability 2023;15. https://doi.org/10.3390/su151511642.

[31] Stavrakakis GM, Bakirtzis D, Drakaki K-K, Yfanti S, Katsaprakakis DAl, **Braimakis K**, et al. Application of the Typology Approach for Energy Renovation Planning of Public Buildings' Stocks at the Local Level: A Case Study in Greece. Energies 2024;17. https://doi.org/10.3390/en17030689.

[32] Tziritas D, **Braimakis K**, Bakirtzis D, Stavrakakis GM, Yfanti S, Terzis K, et al. Cost-Optimality Assessment of a Solar Trigeneration System for Tertiary Sector Buildings in Greece. Energies 2024;17:2819. https://doi.org/10.3390/en17122819.

[33] **Braimakis K**. Mapping the waste heat recovery potential of CO2 intercooling compression via ORC. International Journal of Refrigeration 2024;159:309–32. https://doi.org/10.1016/j.ijrefrig.2024.01.008.

[34] **Braimakis K**, Karellas S. Thermodynamic investigation of integrated Organic Rankine Cycle-Ejector Vapor Compression Cooling Cycle waste heat recovery configurations for cooling, heating and power production. Energy. 2024:132020. https://doi.org/10.1016/j.energy.2024.132020

[35] Fisher R, Ciappi L, Niknam P, **Braimakis K**, Karellas S, Frazzica A, et al. Innovative waste heat valorisation technologies for zero-carbon ships − A review. Applied Thermal Engineering 2024;253:123740. https://doi.org/10.1016/j.applthermaleng.2024.123740.

[36] Han X, Dai Y, Guo X, **Braimakis K**, Karellas S, Yan J. A novel dual-stage intercooled and recuperative gas turbine system integrated with transcritical organic Rankine cycle: System modeling, energy and exergy analyses. Energy 2024;305:132252. https://doi.org/10.1016/j.energy.2024.132252

[37] Avgerinou H, **Braimakis K**, Roumpedakis TC, Karellas S. Thermodynamic modeling and techno-economic assessment of hydrogen fuelled diabatic compressed air energy storage configurations. Applied Thermal Engineering 2025;278:127325. https://doi.org/10.1016/j.applthermaleng.2025.127325.

[38] **Braimakis K**, Westermeier M, Schifflechner C, Beaughon M, Serafino A, Charalampidis A, et al. A general framework for part-load optimization of air-cooled ORCs with screw expanders. Energy 2025;332:137061. https://doi.org/10.1016/j.energy.2025.137061.

[39] **Braimakis K**. Comparative techno-economic assessment of solar district heating architectures based on combined solar thermal collectors, heat pumps, PVs and batteries. Applied Thermal Engineering 2025;281:128723. https://doi.org/10.1016/j.applthermaleng.2025.128723.

[40] Ioannidis D, Rigopoulos P, **Braimakis K**, Pallis P, Karellas S. Multi-objective ANN-driven genetic algorithm optimization of energy efficiency measures in an NZEB multi-family house building in Greece. Energy and Buildings 2026;351:116653. https://doi.org/10.1016/j.enbuild.2025.116653.

[41] **Braimakis K**, Roumpedakis TC, Kalyvas S, Palamidis G, Charalampidis A, Varvagiannis E, et al. Experimental Evaluation of a Solar Ejector Cooling Cycle Prototype. Energies 2026;19. https://doi.org/10.3390/en19010007.

[42] Braimakis K. Systematic performance assessment of double-stage high-temperature heat pumps based on zeotropic mixtures of natural hydrocarbons. Applied Thermal Engineering 2026;292:130241. https://doi.org/10.1016/j.applthermaleng.2026.130241.

Publications in international conferences with abstract review

[1] S. Karellas, **K. Braimakis**. Hybrid biomass and solar energy-based cogeneration and trigeneration systems combining ORC-VCC. ASME ORC 2013, 2nd International Seminar on ORC Power Systems, October 7th, 8th 2013, De Diekebm Rotterdam, The Netherlands

[2] S. Karellas, K. Zourou, **K. Braimakis**, E. Kakaras. Energetic and exergetic assessment of waste heat recovery systems in the glass industry. ASME ORC 2013, 2nd International Seminar on ORC Power Systems, October 7th, 8th 2013, De Diekebm Rotterdam, The Netherlands

Publications in international conferences with full-text review

[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" "21th European Biomass Conference and Exhibition, Copenhagen, Denmark 2013

[2] S. Karellas, **K. Braimakis**. Energy-exergy analysis and economic investigation of a cogeneration and trigeneration ORC-VCC hybrid system utilizing biomass fuel and solar power. ECOS 2014, 27th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems, June 15-19 2014, Turku, Finland

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Software	Matlab, AspenPlus, Python, IpsePro, Mathcad, Autocad, Fortran, EES
Hobbies	Music, cinema, literature, video games