



Curriculum Vitae of Gerardo Maria Mauro

Bio

Gerardo Maria Mauro was born in Benevento (Italy) on May 12, 1988. He is Associate Professor of Applied Thermodynamics and Heat Transfer at “Università degli Studi del Sannio”, Department of Engineering, since December 2021. His main research topics concern: i) numerical simulation and optimization of building energy design or retrofit; ii) large-scale analysis of building stocks via machine/deep learning; iii) development and optimization of strategies for the model predictive control of energy systems; iv) investigation of innovative building components for 3d printing; v) advanced modeling and optimization of heat transfer systems via computational fluid dynamics and numerical methods, e.g., topology optimization. He is author of more than **70** scientific publications at international level. Five of them have been “highly cited papers” according to ISI Web of Science. According to SCOPUS database (Jan. 2023) he has **H-Index** equal to **24** and more than **2000 citations**. He is Editorial Board Member of the MDPI Journals “Sustainability”, “Energies”, “Buildings” and “Thermo”. He is Reviewer of around 30 international scientific Journals published by Elsevier, Taylor & Francis, MDPI and Springer. He participates to different national and European research projects.

- Born in Benevento (Italy) on May 12, 1988
- Webpages: <https://www.unisannio.it/it/users/germauro>;
<https://scholar.google.it/citations?user=CIV1KygAAAAJ&hl=it>
- Orcid: <https://orcid.org/0000-0002-3521-1532>
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- PEC: gerardomariamauro@pec.it

Languages

- Mother tongue: Italian.
- English: level C1.
- Spanish: level A1.

Currently

- Associate Professor of Applied Thermodynamics and Heat Transfer at “Università degli Studi del Sannio” (Benevento, Italy), Department of Engineering, since December 2021.

Previously

- “Ricercatore a tempo determinato di tipo b (RTDb)”, i.e., tenure-track Assistant Professor, of Fisica Tecnica Industriale – SSD:ING-IND/10 at Dipartimento di Ingegneria (DING), Università degli Studi del Sannio, December 2018 – December 2021.
- “Ricercatore a tempo determinato di tipo a (RTDa)”, i.e., non-tenured Assistant professor, of Fisica Tecnica Ambientale – SSD:ING-IND/11 at Dipartimento di Ingegneria Industriale (DII), Università degli Studi di Napoli Federico II, December 2017 – December 2018.
- Post-doc Research Fellow at DII, Università degli Studi di Napoli Federico II, May 2015 – December 2017.



Education

- **PhD** in Engineering of Mechanical Systems at “Università degli Studi di Napoli Federico II”, **28th April 2015**. Thesis: “*Multi-objective optimization for cost optimal energy retrofitting: from the single building to a stock*”. Tutor: Prof. Nicola Bianco.
- Visiting PhD student at “Eindhoven University of Technology”, “Department of the Built Environment” for research activities with the team of Prof. Jan L.M. Hensen about the optimization of energy retrofitting building categories/stocks, February 2014 – July 2014. This research period produced the publication (DOI) [10.1016/j.enbuild.2015.08.044](https://doi.org/10.1016/j.enbuild.2015.08.044).
- Master Degree in Mechanical Engineering for Energy and Environment, *summa cum laude*, at “Università degli Studi di Napoli Federico II”, September 2012.
- Degree in Mechanical Engineering, *summa cum laude*, at “Università degli Studi di Napoli Federico II”, October 2010.

Teaching

At “Università degli Studi del Sannio”:

- Professor of “Modellazione numerica, simulazione e ottimizzazione delle prestazioni energetiche – Modulo 2” (“Building energy modeling, simulation and optimization – Module 2”) – 3 CFU = 18 hours/year for the PhD course in “Technology, Innovation and Management” at “Università degli Studi del Sannio”, academic years 2021/2022 and 2022/2023; Link: <https://www.unisannio.it/it/user/6721/didattica>;
- Professor of “Termofluidodinamica e Trasmissione del Calore” (6 CFU), *i.e.*, “Thermofluidynamics and Heat Transfer”, for the Degree Course in “Energy Engineering”, since 2020;
- Professor of “Laboratorio di Calcolo Numerico” (3 CFU), *i.e.*, “Laboratory of Numerical Computation”, for the Master Degree Course in “Energy Engineering”, since 2019;
- Professor of “Climatologia dell’Ambiente Costruito” (6 CFU), *i.e.*, “Climatology of the Built Environment”, for the Degree Course in “Civil Engineering”, since 2019.
- Professor of “Modellazione Avanzata dei Sistemi Termodinamici” (9 CFU), *i.e.*, “Advanced Modeling of Thermodynamic systems”, for the Master Degree Course in “Mechanical Engineering for Energy and Environment” at “Università degli Studi di Napoli Federico II”, in 2019-2020 and 2020-2021.
- He gave Lectures of “Building performance simulation and optimization” (3 hours per year) at Norwegian University of Science and Technology (NTNU), in 2021 and 2022.
- He gave Lectures of “Building energy simulation and optimization” (3 hours per year) for the PhD course in “Technology, Innovation and Management” at “Università degli Studi di Bergamo” in agreement with “Università degli Studi di Napoli Federico II”, in 2018 and 2019.

Institutional services

- Member of the Committee for Student Orientation of DING, “Università degli Studi del Sannio”, since February 2020.
- Co-organizer of the Summer School in Energy Engineering of “Università degli Studi del Sannio”, July 2022.
- Member of the Committee for the Evaluation of Company Participations of “Università degli Studi del Sannio”, 2020 and 2021.



- Member of the Committee for the final PhD examination in “Ingegneria Industriale e dell’Informazione” (XXXV cycle) at “Università degli Studi della Campania Luigi Vanvitelli”, January 2023.
- Member of the Committee for the final PhD examination in “Tecnologie dell’Informazione per l’Ingegneria” (XXXIV cycle) at “Università degli Studi del Sannio”, May 2022.
- Member of the Committee for the final PhD examination in “Ingegneria Industriale” (XXXIII cycle) at “Università degli Studi di Napoli Federico II”, October 2021.
- Evaluator of n. 1 PhD thesis for the final PhD examination in “Ingegneria Industriale e dell’Informazione” (XXXV cycle) at “Università degli Studi della Campania Luigi Vanvitelli”, November 2022.
- Evaluator of n. 2 PhD theses for the final PhD examination in Industrial Engineering (XXXIV cycle) at “Università degli Studi di Napoli Federico II”, November 2021.

Other work experiences

- Member of the Committee for the Qualifying Examination to the profession of Engineer and Junior Engineer, Benevento, First and Second Session 2022.
- Member of the Selection Committee for the assignment of the management, control and scheduled maintenance service of technological and energy systems of “Università degli Studi di Salerno” (years 2022-2026) – CIG : 9114907335, September-November 2022.
- Scientific collaboration with “Università degli Studi di Napoli Federico II” aimed at consultancy for companies, e.g., ACCA software SpA, Naddeo Technologies Srl, Carpitech Srl, in matter of thermal analysis and optimization of heat transfer systems and devices, since 2018.

Research

Main research topics:

- Multi-objective optimization of building energy design or retrofit by coupling dynamic simulations, numerical optimization (e.g., Genetic Algorithms), and Artificial Intelligence;
- Large-scale analysis of building stocks via sampling methods (e.g., Latin Hypercube Sampling), uncertainty and sensitivity analysis, development of surrogate models (e.g., Artificial Neural Networks);
- Development and Optimization of strategies for the Model Predictive Control of energy systems;
- Investigation of building thermal envelope as concerns both critical points (e.g., thermal bridges) and innovative components to optimize energy performance;
- Integrated optimization of building energy-structural performance and investigation of innovative building components for 3d printing;
- Advanced modeling and optimization of thermodynamic components and systems by means of numerical methods and Artificial Intelligence/Deep Learning techniques;
- Computational Fluid Dynamics coupled with numerical optimization, e.g., topology optimization to address the design of heat transfer systems.

Author of 76 scientific publications – **72** of which indexed in SCOPUS:

- **1** PhD thesis;
- **51** scientific papers on international Journals – more than 70% in Q1 Journals in matter of Applied Thermodynamics and Industrial/Energy Engineering;
- **18** papers published on the Proceedings of International Conferences;
- **3** papers published on the Proceedings of National Conferences;



- 3 chapters of indexed international books.

Ranking in the main scientific databases (January 2023):

- SCOPUS: H-Index **24**, citations > **2000**;
- GOOGLE SCHOLAR: H-Index **25**, citations > **2500**.

Conferences

Keynote Speaker at the “2nd International Conference on Fluid Flow and Thermal Science (ICFFTS’21)”, November 25 2021, virtual. Topic of Keynote: “*Frontiers in Numerical Optimization of Heat Sinks*”; Link: https://2021.icaera.com/program/ICFFTS21_ICAERA21_Program.pdf
<https://2021.icffts.com/program/>

Planned Keynote Speaker at the “4th International Conference on Fluid Flow and Thermal Science (ICFFTS’23)”, December 2023, Dubai, United Arab Emirates. Topic of Keynote: “*Topology optimization & thermal science: from heat sinks to building envelope*”; Link: <https://icffts.com/>

Invited Speaker at the National Conference “Conferenza ECO-RESIS 2022 – Materiali e tecniche resilienti ed eco-sostenibili per la riqualificazione integrata sismico-energetica del patrimonio edilizio esistente”, December 15 2022, Napoli. Topic: “*Retrofit energetico in funzione dello stress climatico*”.

Speaker at the **International Conferences**:

- “7th International Conference on Smart and Sustainable Technologies – SpliTech 2022”, July 2022, Brac (Croatia);
- “39th UIT International Heat Transfer Conference, June 2022, Gaeta (Italy);
- “6th International Conference on Smart and Sustainable Technologies – SpliTech 2021”, September 2021, Brac (Croatia);
- “5th International Conference on Smart and Sustainable Technologies – SpliTech 2020”, September 2020, virtual;
- “Applied Energy Symposium and Forum, REM2018: Renewable Energy Integration with Mini/Microgrid”, September 2018, Rhodes (Greece);
- “ECOS 2017: 30th International Conference on Efficiency, Cost, Optimisation, Simulation and Environmental Impact of Energy Systems”, July 2017, San Diego (CA, USA);
- “ECOS 2016: 29th International Conference on Efficiency, Cost, Optimisation, Simulation and Environmental Impact of Energy Systems”, June 2016, Portorož (Slovenia);
- “1° AIGE-IIETA International Conference and 10° AIGE Conference”, June 2016, Napoli (Italy);
- “ASME-ATI-UIT Conference on Thermal Energy Systems: Production, Storage, Utilization and the Environment”, May 2015, Napoli (Italy);
- “ICAE2015: 7th International Conference on Applied Energy”, March 2015, Abu Dhabi (UAE).

Speaker at the **National Conferences**:

- “17° Congresso Nazionale CIRIAF (Centro Interuniversitario di Ricerca sull’Inquinamento da Agenti Fisici.)”, April 2017, Perugia (Italy).
- “15° Congresso Nazionale CIRIAF (Centro Interuniversitario di Ricerca sull’Inquinamento da Agenti Fisici.)”, April 2015, Perugia (Italy).



Conference Management

Member of the **Scientific Committee** of the following International Conferences:

- “6th International Conference on Countermeasures to Urban Heat Islands – UHI 2023”, December 2023, Melbourne (Australia); Link: <https://www.ic2uhi2023.com/committees>
- “4th International Conference on Fluid Flow and Thermal Science – ICFFTS’23”, December 2023, Dubai, (United Arab Emirates); Link: <https://icffts.com/scientific-committee/>
- “10th International Conference on Heat Transfer and Fluid Flow – HTFF’23”, August 2023, London (United Kingdom); Link: <https://htffconference.com/scientific-committee/>
- “10th International Conference of Fluid Flow, Heat and Mass Transfer – FFHMT’23”, June 2023, Ottawa (Canada); Link: <https://ffhmt.com/scientific-committee/>
- “8th International Conference on Multiphase Flow and Heat Transfer – ICMFHT’23”, March 2023, Lisbon (Portugal); Link: <https://mhmtcongress.com/committee>
- “3rd International Conference on Fluid Flow and Thermal Science – ICFFTS’22”, October 2022, virtual; Link: <https://2022.icffts.com/scientific-committee/>
- “9th International Conference on Heat Transfer and Fluid Flow – HTFF’22, July-August 2022”, Prague (Czech Republic); Link: <https://2022.htffconference.com/scientific-committee/>
- “7th International Conference on Multiphase Flow and Heat Transfer – ICMFHT’22”, April 2022, virtual; Link: <https://lisbon2022.icmfht.com/scientific-committee/>

Member of the **Technical Program Committee** of the following International Conferences:

- “7th International Conference on Smart and Sustainable Technologies – SpliTech 2022”, July 2022, Bol Islands (Croatia); Link: <https://2022.splitech.org/>
- “6th International Conference on Smart and Sustainable Technologies – SpliTech 2021”, September 2021, Bol Islands (Croatia); Link: <https://2021.splitech.org/>
- “5th International Conference on Smart and Sustainable Technologies – SpliTech 2020”, September 2020, virtual; Link: <https://2020.splitech.org/>

Member of the **International Advisor Board** of “GCGW 2021 9th, Global Conference on Global Warming (GCGW - 2021)”, August 2021, virtual; Link: <http://www.gcgw.org/gcgw2021/organizing-committee/>

Session Chair of the Symposium *Flow and Heat Transfer in Porous Media* at the “7th International Conference on Multiphase Flow and Heat Transfer – ICMFHT’22”, April 8 2022, virtual; Link: <https://lisbon2022.icmfht.com/symposium-workshop/>

Chairman of the session “S6: Energy-Energy and Buildings II” at the “5th International Conference on Smart and Sustainable Technologies – SpliTech 2020”, September 2020, virtual.

Co-Chairman of the session “Energy and buildings” at “ECOS 2016: 29th International Conference on Efficiency, Cost, Optimisation, Simulation and Environmental Impact of Energy Systems”, June 2016, Portorož (Slovenia).



Editor and Reviewer

Editorial Board Member of the International Journals:

- “Sustainability” MDPI Publisher, ISSN 2071-1050, Indexed in SCOPUS, Impact Factor: 3.889 (2021); Link: <https://www.mdpi.com/journal/sustainability/editors?search=mauro>
- “Buildings” MDPI Publisher, ISSN 2075-5309, Indexed in SCOPUS, Impact Factor: 3.324 (2021); Link: <https://www.mdpi.com/journal/buildings/editors?search=mauro>
- “Thermo” MDPI Publisher, ISSN 2673-7264; Link: <https://www.mdpi.com/journal/thermo/editors?search=mauro>

Section Board Member of the international journal “Energies”, MDPI Publisher, section: “Energy and Buildings”, ISSN 1996-1073, Indexed in SCOPUS, Impact Factor: 3.252 (2021); Link: <https://www.mdpi.com/journal/energies/editors?search=mauro>

Associate Editor of the international Journal “Frontiers in Built Environment”, section: “Sustainable Design and Construction”, ISSN 2297-3362, Indexed in SCOPUS, CiteScore: 3.4 (2021); Link: <https://loop.frontiersin.org/people/777500/overview>

Review Editor of the International Journal “Frontiers in Energy Research”, section: “Process and Energy Systems Engineering”, ISSN 2296-598X, Indexed in SCOPUS, Impact Factor: 3.858 (2021); Link: <https://loop.frontiersin.org/people/777500/overview>

Guest Editor of the following Special Issues on International Journals:

- “*Innovative Technologies to Optimize Building Energy Performance*”, published on the aforementioned International Journal “Thermo”, MDPI Publisher; Link: https://www.mdpi.com/journal/thermo/special_issues/Y2A31571YQ
- “*Building Energy Simulation & Artificial Intelligence: a Way toward a Sustainable Built Environment*”, published on the aforementioned International Journal “Energies”, MDPI Publisher; Link: https://www.mdpi.com/journal/energies/special_issues/Building_Energy_Artificial
- “*Addressing Sustainable Building Design: Combining Energy and Structural Optimization*”, published on the aforementioned International Journal “Buildings”, MDPI Publisher; Link: https://www.mdpi.com/journal/buildings/special_issues/design_energy_structural
- “*Addressing Sustainable Building Refurbishment: A Journey through Energy Optimization and Structural Retrofit*”, published on the aforementioned International Journal “Buildings”, MDPI Publisher; Link: https://www.mdpi.com/journal/buildings/special_issues/sustainable_building_refurbishment
- “*Sustainable Building Retrofit and Energy Optimization*”, published on the aforementioned International Journal “Sustainability”, MDPI Publisher; Link: https://www.mdpi.com/journal/sustainability/special_issues/sus_build_energy

Reviewer of about 30 international scientific Journals, in the sectors of Heat Transfer, Applied Thermodynamics, Energy/Industrial Engineering, published by Elsevier, Taylor & Francis, MDPI and Springer. Most of them are indexed in Scopus and ISI Web of Science.

Reviewer for different National and International Conferences.



Research groups

- Member of the inter-Universities research group of “Università degli Studi del Sannio”, “Università degli Studi di Napoli Federico II” and “Università degli Studi del Molise”, on the optimization of heat transfer devices and building energy performance. Joined scientific publications: more than 40 at international level, more than 20 feature Prof. Mauro as corresponding author.
- Co-coordinator of the scientific collaboration with the Department of Structures for Engineering and Architecture of “Università degli Studi di Napoli Federico II”, since 2017. Topic: Combined optimization of energy/structural performance of buildings. Joined scientific publications: 2 International Journal papers (DOI): [10.1016/j.jobe.2021.102190](https://doi.org/10.1016/j.jobe.2021.102190), [10.3390/su9060989](https://doi.org/10.3390/su9060989); 2 International Conference papers (DOI): [10.1088/1755-1315/290/1/012022](https://doi.org/10.1088/1755-1315/290/1/012022), [10.11159/htff22.150](https://doi.org/10.11159/htff22.150).
- Co-coordinator of the international scientific collaborations:
 - Since 2021: with Prof. T. Cholewa, Lublin University of Technology. Topic: Optimization of heating system control. 1 joined research project proposal (Italian call FIS 2021);
 - Since 2021: with Prof. W. K. S. Chiu, University of Connecticut. Topic: Thermal optimization of metal foams. Joined scientific publications: 1 International Journal paper (DOI): [10.3390/ma15030968](https://doi.org/10.3390/ma15030968);
 - Since 2019: with Prof. K. Muhammad, Sejong University. Topic: Machine learning for building energy simulation. Joined scientific publications: 1 International Journal paper (DOI): [10.1016/j.seta.2022.102337](https://doi.org/10.1016/j.seta.2022.102337);
 - Since 2018: with Prof. R. Suárez, Universidad de Sevilla. Topic: Thermal simulation of housing stocks. Joined scientific publications: 3 International Journal papers (DOI): [10.1016/j.buildenv.2021.108482](https://doi.org/10.1016/j.buildenv.2021.108482), [10.3390/en12122238](https://doi.org/10.3390/en12122238), [10.1016/j.applthermaleng.2019.01.013](https://doi.org/10.1016/j.applthermaleng.2019.01.013);
 - Since 2016: with Prof. M. Hamdy, Norwegian University of Science and Technology. Topic: Building energy optimization. Joined scientific publications: 2 International Journal papers (DOI): [10.3389/fbuil.2019.00097](https://doi.org/10.3389/fbuil.2019.00097), [10.3390/en10071016](https://doi.org/10.3390/en10071016).

Projects

Participant to:

- European Project Horizon 2020 Green INSTRUCT – Green INtegrated STRUCTural elements for retrofiting and new construction of buildings, 2016 – 2020;
- European Project Horizon 2020 RE4 – REuse and REcycling of CDW materials and structures in energy efficient pREfabricated elements for building REfurbishment and construction, 2016 – 2020;
- National Project PRO-SIT 2019 – PROgettare in SostenibilITÀ: qualificazione e certificazione in edilizi, 2017 –2020.
- National Project PRIN 2017 SUSTAIN/ABLE - SimultaneoUs STructural And energetlc reNovAtion of BuilDings through innovativE solutions, 2017 – 2020;
- Project POR Campania FSE 2007/2013 POLIGRID – Smart Grid con Sistemi di Poligenerazione Distribuita;
- Research Projects and Conventions with industrial partners, e.g., e.g., ACCA software SpA, Naddeo Technologies Srl, Carpitech Srl, in matter of thermal analysis and optimization of heat transfer systems and devices, since 2018.



Recognitions

- Best paper award at the “9th International Conference on Heat Transfer and Fluid Flow (HTFF’22)”, August 2022, Prague, with the paper: “*Simultaneous heat and moisture transport in 3D printed walls*” (coauthors: A. Fragnito, M. Iasiello, C. Menna); Link: <https://htffconference.com/past-events/#Awards>
- ANVUR - VQR 2015-2019: the following 4 publications presented by Prof. Mauro have been assessed in class A, i.e., “Excellent and extremely relevant” (DOI): [10.1016/j.energy.2016.10.126](https://doi.org/10.1016/j.energy.2016.10.126), [10.1016/j.enbuild.2015.11.033](https://doi.org/10.1016/j.enbuild.2015.11.033), [10.1016/j.apenergy.2016.04.078](https://doi.org/10.1016/j.apenergy.2016.04.078), [10.1016/j.enbuild.2015.08.044](https://doi.org/10.1016/j.enbuild.2015.08.044);
- The following papers have been “Highly cited papers” according to ISI Web of Science (DOI):
 - 1) in 2021: “*Multi-objective optimization of finned metal foam heat sinks: Tradeoff between heat transfer and pressure drop*”. Applied Thermal Engineering, DOI: [10.1016/j.applthermaleng.2020.116058](https://doi.org/10.1016/j.applthermaleng.2020.116058);
 - 2) in 2018: “*Artificial neural networks to predict energy performance and retrofit scenarios for any member of a building category: A novel approach*”. Energy, DOI: [10.1016/j.energy.2016.10.126](https://doi.org/10.1016/j.energy.2016.10.126);
 - 3) in 2018: “*Simulation-based model predictive control by the multi-objective optimization of building energy performance and thermal comfort*”. Energy and Buildings, DOI: [10.1016/j.enbuild.2015.11.033](https://doi.org/10.1016/j.enbuild.2015.11.033);
 - 4) in 2018: “*A new methodology for investigating the cost-optimality of energy retrofitting a building category*”. Energy and Buildings, DOI: [10.1016/j.enbuild.2015.08.044](https://doi.org/10.1016/j.enbuild.2015.08.044);
 - 5) in 2018: “*A new methodology for cost-optimal analysis by means of the multi-objective optimization of building energy performance*”. Energy and Buildings, DOI: [10.1016/j.enbuild.2014.11.058](https://doi.org/10.1016/j.enbuild.2014.11.058).
- Awarded as highest-score student of the 1st year of Mechanical Engineering at “Università degli Studi di Napoli Federico II”, 2008.



Publications

PhD Thesis – T (1)

- T1) G.M. Mauro, “Multi-objective optimization for cost-optimal energy retrofitting: from the single building to a stock”, **2015**.

International Journals – J (51)

- J1) F. Ascione, R.F. De Masi, V. Festa, G.M. Mauro, G.P. Vanoli, “Optimizing space cooling of a nearly zero energy building via model predictive control: Energy cost vs comfort”, **Energy and Buildings**, 278, 112664, January **2023**. DOI: 10.1016/j.enbuild.2022.112664.
- J2) A. Fragnito, N. Bianco, M. Iasiello, G.M. Mauro, L. Mongibello, “Experimental and numerical analysis of a phase change material-based shell-and-tube heat exchanger for cold thermal energy storage”, **Journal of Energy Storage**, 56, 105975, December **2022**. DOI: 10.1016/j.est.2022.105975.
- J3) G. Aruta, F. Ascione, N. Bianco, G.M. Mauro, “Optimization of a diabatic compressed air energy storage coupled with photovoltaics for buildings: CO₂-eq emissions vs payback time”, **Energy Reports**, 8, 12686-12698, November **2022**. DOI: 10.1016/j.egyr.2022.09.112.
- J4) L. Gragnaniello, M. Iasiello, G.M. Mauro, “Multi-Objective Optimization of a Heat Sink for the Thermal Management of a Peltier-Cell-Based Biomedical Refrigerator”, **Energies**, 15(19), 7352, October **2022**. DOI: 10.3390/en15197352.
- J5) N. Bianco, A. Fragnito, M. Iasiello, G.M. Mauro, L. Mongibello, “Multi-objective optimization of a phase change material-based shell-and-tube heat exchanger for cold thermal energy storage: experiments and numerical modeling”, **Applied Thermal Engineering**, 119047, October **2022**. DOI: 10.1016/j.applthermaleng.2022.119047.
- J6) Z.A. Khan, A. Ullah, I.U. Haq, M. Hamdy, G.M. Mauro, K. Muhammad, M. Hijji, S.W. Baik, “Efficient Short-Term Electricity Load Forecasting for Effective Energy Management”, **Sustainable Energy Technologies and Assessments**, 53, 102337, October **2022**. DOI: 10.1016/j.seta.2022.102337.
- J7) G. Aruta, F. Ascione, N. Bianco, M. Mastellone, G.M. Mauro, “Optimization of Envelopes, Systems and Storage for Transition of Building Stocks to Zero Energy Districts”, **Chemical Engineering Transactions**, 94, 841-846, September **2022**. DOI: 10.3303/CET2294140.
- J8) N. Bianco, A.W. Mauro, G.M. Mauro, A.M. Pantaleo, L. Viscito, “A semi-empirical model for de-watering and cooling of leafy vegetables”, **Applied Thermal Engineering**, 208, 118227, February **2022**, ISSN: 1359-4311. DOI: 10.1016/j.applthermaleng.2022.118227.
- J9) G.M. Mauro, M. Iasiello, N. Bianco, W.K. Chiu, V. Naso, “Mono-and Multi-Objective CFD Optimization of Graded Foam-Filled Channels”, **Materials**, 15(3), 968, February **2022**, ISSN: 1996-1944. DOI: 10.3390/ma15030968.
- J10) F. Ascione, N. Bianco, F. de Rossi, T. Iovane, G.M. & Mauro, “Are transparent double-skin facades effective for energy retrofit? Answers for an office building-with and without photovoltaic integration”, **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**, 44, 2022 - Issue 1, February **2022**, ISSN: 1556-7230. DOI: 10.1080/15567036.2022.2042430.
- J11) R. Escandón, R. Suárez, A. Alonso, G.M. Mauro, “Is indoor overheating an upcoming risk in southern Spain social housing stocks? Predictive assessment under a climate change scenario”, **Building and Environment**, 207, Part B, 108482, January **2022**, ISSN: 0360-1323. DOI: 10.1016/j.buildenv.2021.108482.
- J12) E. Parcesepe, R.F. De Masi, C. Lima, G.M. Mauro, G. Maddaloni, M.R. Pecce, “Experimental Evaluation of the Mechanical Strengths and the Thermal Conductivity of GGBFS and Silica Fume Based Alkali-Activated Concrete”, **Materials**, 14(24), 7717, December **2021**, ISSN: 1996-1944. DOI: 10.3390/ma14247717.
- J13) F. Ascione, N. Bianco, T. Iovane, M. Mastellone, G.M. Mauro, “Conceptualization, development and validation of EMAR: A user-friendly tool for accurate energy simulations of residential buildings via few numerical inputs”, **Journal of Building Engineering**, 44, 102647, December **2021**, ISSN: 2352-7102. DOI: 10.1016/j.jobbe.2021.102647.



- J14) F. Ascione, N. Bianco, G.M. Mauro, D.F. Napolitano, “Effects of global warming on energy retrofit planning of neighborhoods under stochastic human behavior”, **Energy and Buildings**, 250, 111306, November **2021**, ISSN: 0378-7788. DOI: 10.1016/j.enbuild.2021.111306.
- J15) N. Bianco, S. Busiello, M. Iasiello, G.M. Mauro, “Finned heat sinks with phase change materials and metal foams: Pareto optimization to address cost and operation time”, **Applied Thermal Engineering**, 197, 117436, October **2021**, ISSN: 1359-4311. DOI: 10.1016/j.applthermaleng.2021.117436.
- J16) F. Ascione, N. Bianco, G.M. Mauro, D.F. Napolitano, G.P. Vanoli, “Comprehensive analysis to drive the energy retrofit of a neighborhood by optimizing the solar energy exploitation—An Italian case study”, **Journal of Cleaner Production**, 314, 127998, September **2021**, ISSN: 0959-6526. DOI: 10.1016/j.jclepro.2021.127998.
- J17) F. Ascione, N. Bianco, T. Iovane, M. Mastellone, G.M. Mauro, “The evolution of building energy retrofit via double-skin and responsive façades: A review”, **Solar Energy**, 224, pp. 703-717, August **2021**, ISSN: 0038-092X, DOI: 10.1016/j.solener.2021.06.035.
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