

2023: A Transitional Phase for *Thermo*?

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Prior starting this editorial, I do want to wish all of you a Happy New Year and a great 2024. The beginning of a new calendar year is also a chance to express our heartfelt gratitude to our authors, readers, reviewers, editorial board members, sponsors, and to the whole MDPI family for their unwavering confidence and support.

By looking back on 2023, one can see that last year was a great success for our journal, especially due to the recognition of its quality by our peers, as *Thermo* (ISSN 2673-7264) is now indexed in Scopus as of last November [1]. This success was driven by a clear editorial process ensuring the quality of each published paper. Briefly, in agreement with the Managing Editor of the *Thermo*, we reinforce the reviewing process by selecting at least three referees per submitted article. Each referee is of course pre-selected by the editorial team to assess each submission within the best practice as possible. By following this editorial strategy, each submitted paper receives a first decision after an average of 22 days. Upon acceptance, each paper is then published within a 7-day period, which is reasonable to ensure a high-quality editorial process, including English editing and polishing. In total, 40 articles were published in *Thermo* in 2023 over the whole submissions received. As a consequence, the journal reached a rejection rate close to 36% in 2023, which is often observed when creating a new journal. Furthermore, this success was also attested by the journal's excellent statistics [2] since its creation in 2021. In fact, the visibility of *Thermo* increased from 28,461 full-text views in 2021, to 48,416 in 2022, to 104,903 in 2023, i.e., a 217% increase in one year. In addition, a Special Issue entitled "*Feature Papers of Thermo in 2023*" has been launched and completed successfully by receiving eight very important articles covering the whole scope of the journal [3]. Five other Special Issues have been launched by our Editorial Board Members and will remain open in 2024 [4]. Each of these Special Issues enables Guest Editors, as well as Editorial Board Members, to invite leading investigators to share their knowledge in thermal science with our readers in a specific field, including polymeric materials, porous media, phase change materials, molecular simulation and thermodynamics, as well as thermodynamics education. Of course, we invite all of you to contribute to each collection by sharing your last findings!

Anticipating 2024, it is crucial to validate the promising outcomes achieved since 2021. Sustaining the primary objective of enhancing the visibility of our journal remains a steadfast commitment. We are already working hard in this direction, but this success cannot be reached without your help. For this reason, it is our great pleasure to invite you to contribute to the growing success of *Thermo*. One may ask me this simple question: "*Why should I participate into such a success?*" The simple answer is related to the creation of an open access forum related to the world of thermal science, which is vibrant and ever evolving, marked by groundbreaking research and discoveries that continually shape our understanding of energy and heat transfer. In fact, *Thermo* provides to its readers with recent contributions to the field, highlighting key themes and advancements found in contemporary thermal science applications, including:

- Advances in thermodynamics to unravel complex systems thanks to modern thermodynamics to bridge energy transformations and system behaviors. For this purpose, the exploration of non-equilibrium thermodynamics has gained prominence, offering



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insights into phenomena far from the thermal equilibrium. The thermodynamic modeling of novel materials and the development of quantum thermodynamics have both opened up new avenues, providing a deeper understanding of energy interactions at microscopic scales to better understand their macroscopic behaviors.

- Cutting-edge heat transfer research to move from nanoscale to macroscale applications. Heat transfer, a critical aspect of thermal science, is witnessing groundbreaking developments across various scales. Nanoscale heat transfer studies have revealed intricate mechanisms governing energy transport in nanomaterials, paving the way for advancements in nanoelectronics and materials science, for example. Meanwhile, macroscale applications continue to benefit from improved modeling techniques and experimental methodologies, enhancing the efficiency of heat exchangers, engines, and thermal management systems. The integration of artificial intelligence and machine learning in heat transfer analysis is a notable trend, enabling data-driven insights and optimization in thermal systems. Such an integration will strongly impact future research fields in thermal science in the near future.
- Advances in fluid mechanics to move beyond conventional paradigms. The study of fluid mechanics has evolved to address contemporary challenges and applications. Computational fluid dynamics (CFD) techniques have become indispensable tools, enabling researchers and engineers to simulate and analyze fluid flow in complex geometries. Multiphase flows, biofluid dynamics, and environmental fluid mechanics are gaining prominence, reflecting a shift toward more comprehensive and specialized investigations. Innovations in experimental techniques, such as advanced imaging and measurement technologies, are providing unprecedented insights into the intricate behaviors of fluids in diverse scenarios.
- Advances in the development of alternative materials to ensure the development of sustainable energies and applications. In fact, thermal science is playing a pivotal role in addressing energy-related challenges related to climate change and sustainable development. Research on renewable energy systems, energy storage, and energy-efficient technologies is at the forefront. Studies on sustainable cooling, waste heat recovery, and thermal management in any process underscore the importance of an in-depth understanding of thermal science in mitigating environmental impacts.

Thanks to its Editorial Board, *Thermo* reflects this interdisciplinary nature of the research field, and our journal is serving as an invaluable repository of the latest research findings, capturing the collective efforts of scientists and engineers pushing the boundaries of what is already known. As we navigate the frontiers of thermal science, this journey promises to provide our readers with not only a deeper understanding of fundamental principles and good teaching practices but also the development of transformative technologies that will shape our future in terms of alternative energies, materials, and the development of sustainable applications. Again, it is our pleasure to invite you to contribute to this unique journey!

Conflicts of Interest: The author declares no conflict of interest.

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