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Towards growth and sustainable researches in phase change materials

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Public Interest Statement

While many of the advances in materials science have been driven by breakthroughs in material design and fabrication, understanding the changes that occur in a material during its utilization or operation in devices is of immense importance for its successful integration. Considering these aspects and the continued growth in materials research, there is a clear need for new topical journals which can serve researchers to understand the phase transitions and exploit the phenomena to current, state-of-the-art research in the field of materials science, moreover with full accessibility.

Editorial:

Towards growth and sustainable researches in phase change materials

Materials science is one of the fastest-growing research areas globally, with a focus on synthesis, characterization, and applications of new materials at the forefront. Understanding fundamental structure-property relationships is the key for developing new materials with desired functionalities for specific applications, that impact society through improvements in devices, healthcare, and other traditional applications. While many of the advances in materials science have been driven by breakthroughs in material design and fabrication, understanding the changes that occur in a material during its utilization or operation in devices is of immense importance for its successful integration. Considering these aspects and the continued growth in materials research, there is a clear need for new topical journals which can serve researchers to understand the phase transitions and exploit the phenomena to current, state-of-the-art research in the field of materials science, moreover with full accessibility.

Out of all energy storage has been identified as one of the most important technologies to be deployed to improve the energy efficiency of several environmental systems, such as heat pumps, transport systems, batteries, building materials, biomedical and industrial processes, and concentrating solar power or solar cooling plants including in different chemical reaction systems. The development of new phase change materials is critical to push this technology to the market. Besides, knowledge about the properties and their reliability when the new PCMs are synthesized and thermal-cycled is crucial for the development and optimization of this new PCM.

These materials can store and release high amounts of energy by latent heat and reduce the size and weight of systems based on conventional materials. They can be also coupled with renewable energy-based systems or be used to shift the peak load.

We are very happy to introduce the new open-access journal “Journal of Phase Change Materials” (<https://j-pcm.org/index.php/jpcm/index>) and its editorial team. Dr. Sudip Chakraborty from University of Calabria, Italy, will serve as the Editor-in-Chief of the journal, while Prof. Umapada Pal from Instituto de Física, Benemérita Universidad Autónoma de Puebla, Mexico, Prof. Stefano Curcio from the University of Calabria, Italy, Prof. Isabel C. Escobar, from the University of Kentucky, Lexington, USA and Prof. Yanfeng Gao from Shanghai University, China will serve as the Associate Editors. Working together, the editors of the Journal of Phase Change Materials will seek to provide authors with a professional and rapid review of their submitted manuscripts, to guaranty a timely publication of their valuable research results.

We invite prospective authors to read the Authors guideline which includes the journal scope and submission guidelines (<https://j-pcm.org/index.php/jpcm/about/submissions>) before submitting their manuscripts.

The ultimate goal of the J-PCM is to publish scientific reports and results of a high

standard that can reach the researchers working in materials and materials technology quickly and free of cost. It is my pleasure to invite you to read this new journal of Phase Change Materials and submit the manuscript for future Issues. Full papers, communications, and reviews are all welcome. We encourage you to send contributions in this framework. The accepted papers will be published on an ongoing basis and simultaneously being grouped online under a specific volume/issue. You may either write a short overview/review article or submit your latest original results as a research paper. We hope to spark your interest and look forward to receiving your manuscript soon. If you have any further questions, please do not hesitate to our editorial office.

Enjoy this new journal and happy reading.

Umapada Pal, *editor*

Sudip Chakraborty, *editor-in-chief*