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ICFRE'25, November 18-19, 2025

Earth Physics Laboaratory (LABOPHYT),
Faculty of Hydrocarbons and Chemistry,
University M'Hamed Bougara of Boumerdes, Algeria

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Editorial of the Special Issue ICFRE 2025

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This Special Issue is dedicated to recent advances in the fields of renewable energies, following the International Conference on Fossil and Renewable Energies (ICFRE 2025), held on November 18–19, 2025, and organized by the Earth Physics Laboratory (LABOPHYT) at the University M'Hamed Bougara of Boumerdes, Algeria.

This event brought together a broad community of researchers, academics, industry experts, and policymakers to address critical challenges and emerging opportunities shaping the global energy landscape. ICFRE 2025 provided a high-level scientific platform for discussing innovative technologies, interdisciplinary research, and strategic policy frameworks, fostering dynamic exchanges and collaborations aimed at advancing knowledge and supporting the development of resilient and sustainable energy solutions.

This Special Issue reflects the core scientific themes of the conference and gathers selected, peer-reviewed contributions aligned with its main topics, including renewable energies, fossil energy transition strategies, renewable energy technologies and integration, and the application of artificial intelligence in energy systems.

The published works demonstrate a high level of scientific rigor and cover a wide range of theoretical and applied research. These include resource assessment, optimization of energy systems, hybrid energy solutions, advanced modeling and simulation, and data-driven approaches for intelligent energy management. Particular emphasis is placed on improving energy efficiency, reducing environmental impacts, and supporting decarbonization pathways.

Beyond the scientific contributions, this Special Issue highlights the importance of interdisciplinary collaboration and international cooperation in addressing global energy challenges.

We would like to express our sincere gratitude to the Centre de Développement des Energies Renouvelables (CDER) and the *Journal of Renewable Energies*, as well as to all authors for their valuable contributions, to the reviewers for their rigorous evaluations and constructive feedback, and to the members of the scientific and organizing committees of ICFRE 2025 for their dedication and professionalism. Their collective efforts have ensured the high quality and relevance of this publication.

It is our expectation that this Special Issue will serve as a valuable reference for researchers, engineers, and decision-makers, and will stimulate further scientific advancements and collaborative initiatives toward a more sustainable and efficient energy future.

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Welcome To



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