Special Issue

Advances in Refrigeration and Heat Pump Technologies

Message from the Guest Editors

The global warming potential (GWP) of working fluids customarily employed and the energy efficiency of refrigeration and heat pump systems are responsible for the non-negligible greenhouse gas (GHG) emissions in the atmosphere, and have prompted regulatory actions, e.g. by the European Union for their phaseout. Similarly, the energy efficiency of components and refrigeration systems must increase to limit energy consumption and GHG emissions associated with plant operation. These issues pose significant challenges to the refrigeration industry, such as:

- the search for new working fluids able to substitute high-GWP refrigerants;
- the safety aspects associated with the mostly flammable alternatives to high-GWP refrigerants;
- the expected growth of air conditioning demand in sunbelt Countries and the subsequent increase in GHG emissions;
- the increase in energy efficiency of components and refrigeration and heat pump systems;
- the increasing market demand for low-cost and limited maintenance devices.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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