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Experimental and Numerical Study of Heat Pump and Heat Exchanger

Guest Editors:

Dr. Wenke Zhao

School of Energy Science and Engineering, Harbin Institute of Technology, Harbin 150001, China

Dr. Lei Shi

School of Energy Science and Engineering, Central South University, 932 Lushan Street, Changsha 410083, China

Dr. Zhaohui Ruan

College of Electrical, Energy and Power Engineering, Yangzhou University, Yangzhou 225127, China

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Message from the Guest Editors

Heat pumps have attracted significant attention in recent years because of their advantages: (a) high operating efficiency, (b) high energy-saving potential, and (c) low greenhouse gas emission. Heat pumps including geothermal heat pumps, air-source heat pumps, and water-source heat pumps are applied to replace the heat and cold generation systems that are not neutral for the environment.

Heat exchangers are significant components to extract and convert thermal energy for the heat pump, and they include the evaporator, condenser, horizontal heat exchanger, vertical heat exchanger, and direct contact heat exchanger. The evaporator heat transfer efficiency is susceptible to frost and dirt, and the horizontal and vertical heat exchangers are easily influenced by the heat exchanger layout. Therefore, it is important to improve the heat exchanger efficiency and heat pump performances by experimental and numerical methods.

Topics to be covered in this Special Issue include, but are not limited to the following:

- Novel heat pump system
- Heat pump thermodynamic optimization
- Heat pump applications
- New heat exchanger design
- Heat exchanger enhancement
- Other related topics



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Special Issue



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Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and
Aerospace Engineering,
University of Roma Sapienza, Via
Eudossiana 18, 00184 Roma, Italy

Message from the Editor-in-Chief

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Energies Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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