



Renewable Energy Systems for Sustainable Environment

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I feel happy to introduce a Special Issue on *Renewable Energy Systems for Sustainable Environment* in *Environmental Science and Pollution Research*. This special issue is dedicated to the research studies reported on *Environmental impacts of Renewable Energy Systems* presented in the *International Conference on Thermal Analysis of Energy Systems 2021* organized by Heat Pump Research Institute and Department of Mechanics, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan during the 22nd, 23rd and 24th of December 2022 through online mode. More than 100 technical papers were presented through Online. About 25 papers were shortlisted. The research papers shortlisted for this special issue mainly focus on bio-fuels and environment impact reduction in diesel engines. The papers were reviewed by subject experts and revised accordingly to meet the requirements of the Journal. I express my gratitude to *Dr. Philippe Garrigues*, Editor in Chief and *Fanny Creusot*, Editorial Assistant, *Environmental Science and Pollution Research* for providing this opportunity to compile this special issue. I would like to thank all the authors for their research contributions to this special issue. The support provided by the subject experts in reviewing the research articles are gratefully acknowledged. I extend my heartfelt thanks to the conference co-organizers: *Dr. S. Jayaraj*, former Professor in Mechanical Engineering, National Institute of Technology, Calicut, India; *Dr. Ye. Belyayev* and *Dr. Zaur Rakisheva*, Department of Mechanics, Al-Farabi Kazakh National University, Kazakhstan. *Dr. K. Sopian*, Director, Solar Energy Research Institute, Malaysia, *Dr. R. M. Singh*, Professor in Geotechnical Engineering, NTNU,

Norway, and *Dr. Arun K Raj*, Post-doctoral researcher, University of California, USA are thanked for their active support in organizing this conference.

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Dr. M. Mohanraj Professor in Mechanical Engineering, Heat Pump Research Institute

Dr. M. Mohanraj is presently working as a Professor in Mechanical Engineering, Hindusthan College of Engineering and Technology, Coimbatore-641032 India. In addition, he is associated with Heat Pump Research Institute, Coimbatore as a Director. He has more than 20 years of research and teaching experience in the fields of Renewable Energy, Heat Exchangers, Heat Transfer, Refrigeration, Heat

Pumps etc. He has research collaboration with Al Farabi Kazakh National University, Almaty, Republic of Kazakhstan for developing heat pump heating systems to meet the space-heating requirements during winter seasons. He has published more than 100 technical articles in reputed international journals. He has organized five International conferences in the fields of Renewable Energy, Thermal Analysis and Energy Systems etc..



Dr. Ye. Belyayev Associate Professor in Mechanical Engineering

Dr. Ye. Belyayev is presently working as an Acting Professor in Department of Mechanics, Al-Farabi Kazakh National University, Almaty, Kazakhstan. His research interests include Computational Fluid Dynamics, Heat and Mass Transfer, Thermodynamics and modern Renewable Energy Technologies. Most of his published work is related to Applied Thermodynamics, Heat and Mass

Transfer, including research on Heat Pumps and Heat Exchangers (Solar/Ground). Having a background in Mechanics, he is interested in the application of Computational Mechanics in the study of physical processes in Renewable Energy Technologies. He actively reviews articles for top-rated journals and has experience as a guest editor.

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