From the Guest Editors

Renewable energy is the energy generated from renewable natural resources, and it widely includes solar energy, geothermal energy, biomass energy, wind energy, ocean energy, *etc*. Renewable energy not only contributes to the increasing energy need but also benefits the worsening environmental situation because renewable energy is renewable, species diverse, abundantly available, pollutions negligible, and environmental friendly. This special issue, entitled *Developments in Fundamentals and Applications of Renewable Energy*, consists of 45 papers, which cover wide topics as follows.

Six papers focused on solar energy. These mainly include solar barn drier for drying wastewater sewage sludge, improved CO_2 combined, cooling, heating, and power systems driven by solar energy, high concentration photovoltaic/thermal system with plane mirrors array, plate receiver for cooling densely packed photovoltaic cells with a point focusing solar concentrator, regenerator in a solar Stirling engine, and enhanced solar energy absorption on nitrogen-doped carbon nanotubes.

Two papers focused on geothermal energy. These include geothermal energy obtained from a deep well in the coldest provincial capital of China, and continuous operating ground source heat pump system.

Three papers focused on wind energy. These include grid-connected permanent-magnet direct-driven wind power system, rotating stall in a two-stage axial fan, and icing distribution of rotating blade of horizontal axis wind turbine.

Five papers which are focused on biomass energy. These include exergy characteristics of rice husks, rice husk gasification in cyclone pyrolysis-suspended combustion system, high temperature steam gasification of wastewater sewage sludge, bio-oil production from sewage sludge through pyrolysis, and ethanol fermentation with reducing sugars from camellia (*Camellia Oleifera*) seed meal.

Four papers focused on ocean or hydro energy. These include draft tube vortex in Francis hydro-turbine, marine currents at midia cape, water exchange of a standing column well with aquifer, and supercritical water cross-flow past cylinder biomass particle at low Reynolds numbers.

The rest twenty-five papers topics are the properties of nanograin, SiC foam, parallel foils, mixture refrigerant, and monolayer aluminum porous microstructure. Natural gas pipeline leak, polycrystalline photovoltaic parks, chemical vapor deposition process, thermal-washing process, photo-thermo chemical synergetic catalytic water splitting process, thermal energy storage unit, water-cooled screw chiller, thermoacoustic refrigerator, micro-grid inverter, leakage inductance transformer, supercritical CO_2 centrifugal compressor, in-outward convex corrugated tubes, porous metal foam tubes filled with water, oil and water migration in porous media, turbulent Rayleigh-Benard convection, Rayleigh-Benard convection enclosures filled with Al_2O_3-water nanofluid, and large comprehensive commercial building are also covered.

Herein we would like to thank all authors who contributed excellent papers in the special issue and thank all of the reviewers who had provided their critical comments. In addition, we really appreciate the Journal Editor-in-Chief, Professor Simeon Oka, for giving us

the opportunity to edit the special issue on very timely topics, and appreciate the journal assistants, Ljiljana Šopalović and Vladimir Živković, for providing assistances in the publication of this special issue. We hope that this issue will periodically stimulate researchers to publish the highlights and original articles reporting new advances in renewable energy.

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