



Advanced Technologies in Renewable Energy Generation Systems

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Message from the Guest Editor

Dear Colleagues,

A new global energy economy is being created as a result of the faster-than-ever worldwide expansion of renewable energy production. This expansion is accomplished by incorporating some renewable energy sources into the electrical grid. The electrical systems become more sophisticated as a result of the integration and present new difficulties. One of these difficulties, as in PV and wind systems, is the unpredictable nature of the energy produced by these renewable sources as well as their dependency on environmental changes. The integration process will also require power electronic switches. Consequently, to improve and support the performance of these grid-integrated renewable sources, contemporary control, flexible devices, and optimization methodologies should be introduced. The following are only a few examples of the subjects of interest:

- Modern power system operation and control;
- Distributed generation;
- Modern FACTS device control techniques in contemporary power systems;
- Modern optimization techniques for improving the integration of renewable energy sources into the grid;
- Security and resiliency of hybrid power systems.





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Message from the Editor-in-Chief

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