Control of Renewable Energy Systems

A Special Issue of ISA Transactions

EXECUTIVE SUMMARY

Renewable energy systems are a growing field of interest in engineering and science communities. Finite resources of fossil and organic fuel sources imply a definite limit on the amount of available energy that can be made available for public consumption. At a certain point in the future fossil fuels will be depleted. Prudent preparation and planning to account for this time is essential to continued operation of our societal infrastructure.

This special issue of the ISA Transactions will provide a forum for researchers and practitioners to share insights on innovation and development of control methods for renewable energy systems. The scope of the special issue surrounds the use of technology to regulate and adjust outputs and other parameters of engineering systems through feedback and also open loop or feedforward methods. Of interest is the application of advanced control techniques and methods to enable more efficient and higher operational capabilities of systems in the general area of renewable energy. Renewable energy systems include, but are not limited to wind energy, solar energy, geothermal systems, tidal, hydrokinetic and hydrostatic systems, piezoelectric effects and other sources. Control of processes for energy extraction, power regulation, stability and performance robustness, fragility, optimality and other aspects are encouraged. Research dealing with development of novel control strategies are welcomed along with work on implementation of existing control methods to practical and industrially relevant renewable energy systems. General survey papers will also be considered.

TARGET AUTHORS AND SUBMISSIONS

The authors from the International Renewable Energy Conference 2015 (IREC 2015) will be identified and solicited based on their work papers presented at that conference both in written and oral or poster formats. Dr. Jeff Pieper, working with the IREC 2015 Conference Editorial Board and its organizers and the ISA Transaction Editorial Board will be responsible for the special issue and identification and solicitation of the articles.

TIMELINE

Authors of identified papers will be contacted by Dr. Jeff Pieper or a member of the Conference Organizing Team following IREC 2015 which will be held in Sousse Tunisia, March 22-25, 2015. Potential authors will be solicited by 30th April 2015 and asked to complete submit a revised version of their conference submission by the end of June 2015. This will be followed by a peer review process by the ISA Transactions Editorial Board and reviewers completed by October 2015, with revisions expected within an additional three months.