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Special Session on
"Intelligent Control Techniques Applied to Renewable Energy Systems"

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Call for Papers

Coal-fired power plants have been identified as one of the significant causes of climate change. Although CO_2 emissions are mainly produced by thermal power plants, these energy sources are still widely used nowadays. As a result, there is a widespread consensus that renewable energy sources such as wind, marine, hydro, and solar must be considered to mitigate climate change and reduce air pollution. Consequently, research on renewable energies and, particularly, on control and efficiency is encouraged to contribute to this sustainable trend.

Expert systems, fuzzy control, neural networks, genetic algorithms, artificial immune networks, swarming particle techniques, ACO, reinforcement learning, and other intelligent control techniques have proved to be effective in many different fields. They can be applied to tackle complex problems where conventional methods are less efficient or unsuccessful.

The aim of this special session is to provide a platform for researchers, engineers, and industrial professionals from different fields to share and exchange their ideas, research results and experiences in the field of intelligent control techniques applied to renewable energy systems. Contributions to this special session are welcome to present and discuss novel methods, algorithms, frameworks, architectures, platforms, and applications.

Session topics include, but are not limited to, the following strategies and approaches applied to renewable energy systems: Fuzzy control, Neuro control, Neuro-fuzzy approaches, Intelligent PID control, Optimization by heuristic techniques in system engineering and control, Modelling and identification by Soft Computing techniques, Identification and control by hybrid intelligent strategies.