

# Special Issue “Optimization Methods in Renewable Energy Systems Design”

Renewable Energy Journal (Elsevier, 5 year IF: 3.456)

## Aim and Scope

Sustainability is of great importance due to increasing demands and limited resources worldwide. In particular, in the field of energy production and consumption, methods are required that allow to produce energy in an efficient way, as well as to develop methods for the efficient usage of energy. The vast extension of energy sources and the growing information structure allow a fine screening of energy resources, but also require the development of tools for the analysis and understanding of huge datasets about the energy grid. Key technologies in future ecological, economical and reliable energy systems are energy prediction of renewable resources, prediction of consumption as well as efficient planning and control strategies for network stability.

To enable financially and ecologically viable projects, optimization methods have taken over a key role for planning, optimizing and forecasting sustainable systems. Typically, these approaches make use of domain knowledge in order to achieve the required goal. Even in the case that explicit domain knowledge is not available, specialized methods can also handle large raw numerical sensory data directly, process them, generate reliable and just-in-time responses, and have high fault tolerance.

The main goal of this Special Issue (SI) is to promote the research on optimization methods for their application to the renewable energy production and consumption domain.

## Topics

We are seeking articles including (but not limited to):

- Algorithms for modeling, control, and optimization
- Prediction of wind and photovoltaic energy
- Prediction and monitoring of energy consumption
- Communication and control
- Demand side management
- Distributed energy resources
- Methods and algorithms for real-time analysis
- Planning, operation and control
- Plug-in vehicles
- Renewable energy
- Smart micro-grids
- Smart sensing
- Virtual power plants

## Time schedule

Deadline:	31 <sup>st</sup> March 2015
Reviews by:	15 <sup>st</sup> May 2015
Revision by:	30 <sup>st</sup> June 2015
Final decision by:	15 <sup>th</sup> August 2015
Publication:	late 2015

We strongly encourage the submission of review articles on specific topics.

## Submission

Manuscripts must be prepared according to the instructions of the "Author Information Pack" of the journal, available at <http://www.journals.elsevier.com/renewable-energy/>. Papers incorrectly formatted will be returned without review.

Papers must be submitted through Elsevier's journal website: <http://ees.elsevier.com/rene/>. The submission system for this special issue will open in early 2015. Authors must select this "Special Issue Optimization Methods in Renewable Energy Systems Design" when asked by the online system "Please Select an Article Type". Submitted papers will be reviewed by at least three reviewers. The submission of a manuscript implies that it is the authors' original unpublished work and is not being submitted for possible publication elsewhere.

## Guest Editors

[Dr. Paul Kaufmann](#), University of Paderborn, Germany

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This Special Issue is an activity of the IEEE CIS Task force on Computational Intelligence in the Energy Domain, <http://cs.adelaide.edu.au/~markus/CIS-TF-Energy/>.