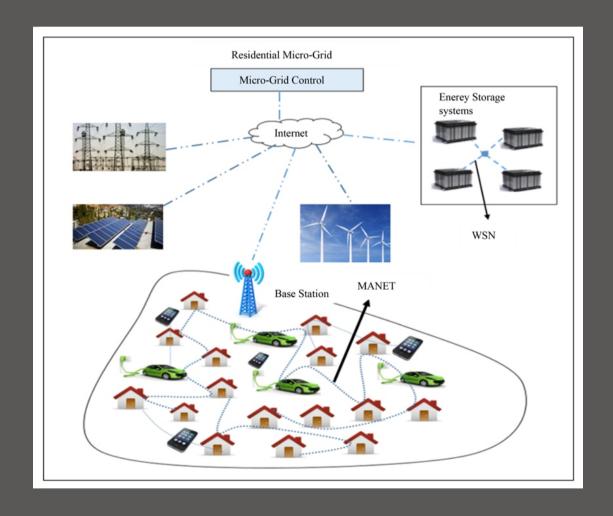


# Smart Grid and Renewable Energy





www.scirp.org/journal/sgre

# **Journal Editorial Board**

ISSN Print: 2151-481X ISSN Online: 2151-4844 http://www.scirp.org/journal/sgre

# **Editors-in-Chief**

Prof. Victor Sreeram	University of Western Australia, Australia
Prof. Yuanzhang Sun	Wuhan University, China

## **Editorial Advisory Board**

Prof. Ching Chuen Chan	University of Hong Kong, China
Prof. Yusheng Xue	State Grid Electric Power Research Institute, China
Prof. Ryuichi Yokoyama	Tokyo Metropolitan University, Japan
Dr. Xiaoxin Zhou	Chinese Society of Electrical Engineering, China

# **Editorial Board**

Prof. Gholam Hossein Bordbar	Shiraz University, Iran
Prof. Emanuele Calabrò	Institute of Industrial Technology, Italy
Prof. Ho Chang	National Taipei University of Technology, Chinese Taipei
Dr. Seokheun Choi	Binghamton University, USA
Prof. Kalyanmoy Deb	Indian Institute of Technology, India
Prof. Volkmar Dierolf	Lehigh University, USA
Dr. Daniel Garraín	Spanish Ministry of Science and Innovation, Spain
Dr. Katerina Ioakeimidi	Stanford University, USA
Dr. Herbert Iu	University of Western Australia, Australia
Prof. Chunxiang Li	Shanghai University, China
Dr. Dylan Dah-Chuan Lu	University of Sydney, Australia
Prof. D. Subbaram Naidu	University of Minnesota, USA
Dr. Federico Scarpa	University of Genoa, Italy
Dr. Yang Shi	University of Victoria, Australia
Dr. Pierluigi Siano	University of Salerno, Italy
Prof. Igor I. Strakovsky	The George Washington University, USA
Dr. Salahadin Vaisi	University of Kurdistan, Iran
Prof. Huiming Wee	Chung Yuan Christian University, Chinese Taipei
Prof. Daniele De Wrachien	State University of Milan, Italy
Dr. Fuqian Yang	University of Kentucky, USA
Prof. Changhui Ye	Chinese Academy of Sciences, China
Prof. Weiping Zhang	Shanghai Jiao Tong University, China



# **Table of Contents**

#### Volume 7 Number 3

#### March 2016

Neural Network for Estimating Daily Global Solar Radiation Using Temperature, Humidity and Pre as Unique Climatic Input Variables	essure
V. A. Jimenez, A. Barrionuevo, A. Will, S. Rodríguez	95
SCADA Framework Incorporating MANET and IDP for Cyber Security of Residential Microgrid Communication Network	
G. K. Chalamasetty, P. Mandal, TL. (B.) Tseng	105

The figure on the front cover is from the article published in Smart Grid and Renewable Energy, 2016, Vol. 7, No. 3, pp. 105-113 by Goutham K. Chalamasetty, Paras Mandal and Tzu-Liang (Bill) Tseng.

#### Smart Grid and Renewable Energy (SGRE)

#### **Journal Information**

#### **SUBSCRIPTIONS**

The *Smart Grid and Renewable Energy* (Online at Scientific Research Publishing, <u>www.SciRP.org</u>) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates: Print: \$79 per copy. To subscribe, please contact Journals Subscriptions Department, E-mail: <a href="mailto:sub@scirp.org">sub@scirp.org</a>

#### SERVICES

Advertisements Advertisement Sales Department, E-mail: <u>service@scirp.org</u>

Reprints (minimum quantity 100 copies) Reprints Co-ordinator, Scientific Research Publishing, Inc., USA. E-mail: <u>sub@scirp.org</u>

#### COPYRIGHT

#### COPYRIGHT AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2016 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY). http://creativecommons.org/licenses/by/4.0/

#### COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:

Copyright © 2016 by author(s) and Scientific Research Publishing Inc.

#### **REUSE RIGHTS FOR INDIVIDUAL PAPERS:**

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

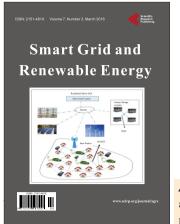
#### DISCLAIMER OF LIABILITY

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

#### **PRODUCTION INFORMATION**

For manuscripts that have been accepted for publication, please contact: E-mail: sgre@scirp.org

# **Call for Papers**



# Smart Grid and Renewable Energy

# ISSN Print: 2151-481X ISSN Online: 2151-4844 http://www.scirp.org/journal/sgre

*Smart Grid and Renewable Energy* (SGRE) is an international journal dedicated to the latest advancement of smart grid and renewable energy. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of smart grid and renewable energy.

### **Editors-in-Chief**

Prof. Victor SreeramUniversity of Western Australia, AustraliaProf. Yuanzhang SunWuhan University, China

## **Editorial Advisory Board**

Prof. Ching Chuen Chan	University of Hong Kong, China
Prof. Yusheng Xue	State Grid Electric Power Research Institute, China
Prof. Ryuichi Yokoyama	Tokyo Metropolitan University, Japan
Dr. Xiaoxin Zhou	Chinese Society of Electrical Engineering, China

# Subject Coverage

All manuscripts submitted to SGRE must be previously unpublished and may not be considered for publication elsewhere at any time during SGRE's review period. Additionally, accepted ones will immediately appear online followed by printed in hard copy. The topics to be covered by Smart Grid and Renewable Energy include, but are not limited to:

- Bio-Energy Technologies, Process and Utilization
- Concept and Structure of Smart Grid
- Decision Making under Uncertainty in the Integration of Renewable Energy Systems
- Design of Sustainable Product-Service Business Models
- Development of Smart Grid
- Environmental-Friendly Technologies for Power Generation
- Geothermal and Tidal Wave Energy
- Hydropower Technologies and Applications
- Information and Smart Meter Reading
- Integrated Energy and Communications

- MEMS & NEMS and Their Applications for Power Generation
- New Technologies and Design for Energy Efficiency
- New Technologies for Minimizing CO<sub>2</sub> Generation
- Operations Research for Green Logistics
- Photovoltaic for Solar Power Applications
- Power System Analysis and Optimization
- Power System Planning and Operation
- Service Optimization for Renewable Energy Supply
- Solar Energy Utilization-Heat and Mass Transfer Technology
- Wind Power Generation and Utilization

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the SGRE.

## **Notes for Intending Authors**

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are referred through a peer review process. For more details about the submissions, please access the website.

# Website and E-Mail

http://www.scirp.org/journal/sgre

E-mail: sgre@scirp.org