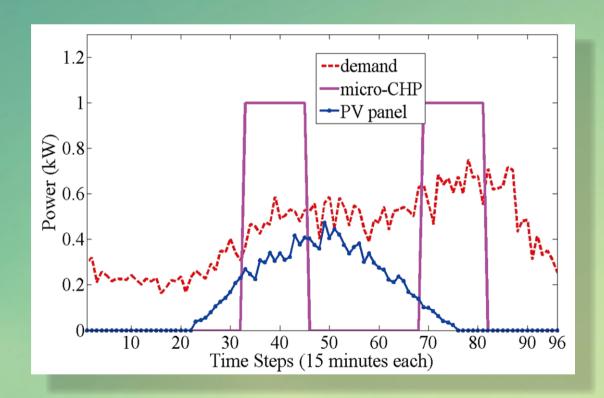


# Smart Grid and Renewable Energy





# **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

**Dr. 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. 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** The University of Western Australia, Australia

Prof. Chunxiang Li

Dr. Dylan Dah-Chuan Lu

Dr. Yang Shi

Dr. Pierluigi Siano

Shanghai University, China

University of Sydney, Australia

University of Victoria, Australia

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 WrachienState University of Milan, ItalyDr. Fuqian YangUniversity of Kentucky, USA

Prof. Changhui YeChinese Academy of Sciences, ChinaProf. Weiping ZhangShanghai Jiao Tong University, China



### TABLE OF CONTENTS

Volume 4 Number 2	May 2013
Demand and Response in Smart Grids for Modern Power System	
M. Q. Raza, M. U. Haider, S. M. Ali, M. Z. Rashid, F. Sharif	133
The Interaction between the Large-Scale EVs and the Power Grid	
Y. Huang, J. Y. Liu, X. D. Shen, T. T. Dai.	137
Modeling and Simulation of a Renewable Energy Based-Medical Herb Dryer	
AS. A. Nafeh, E. A. Sweelem, F. H. Fahmy	144
Temperature Control in a PV-WIND Medical Herb Dryer System	
AS. A. Nafeh, E. A. Sweelem, F. H. Fahmy.	153
Uniformly Illuminated Efficient Daylighting System	
I. Ullah, S. Shin	
Significance of Storage on Solar Photovoltaic System—A Residential Load Case Study in A	
M. T. Arif, A. M. T. Oo, A. B. M. S. Ali, G. M. Shafiullah	167
Very Short-Term Generating Power Forecasting for Wind Power Generators Based	
on Time Series Analysis	
A. Yona, T. Senjyu, F. Toshihisa, CH. Kim.	181
Hybrid Power Systems Energy Controller Based on Neural Network and Fuzzy Logic	
E. M. Natsheh, A. Albarbar.	187
Design of a Monitoring System of Micro-Grid	
X. Y. Zhao, S. Y. Liu	198
Holonic Architecture of the Smart Grid	202
E. Negeri, N. Baken, M. Popov	202
A Low-Cost, Smart AC Charging System for Electric Vehicle	212
B. Wang Sizing and Design of the PV-WIND Energy Dryer for Medical Herbs	213
	217
E. A. Sweelem, AS. A. Nafeh, F. H. Fahmy	217
CHP Fuel Cell, Micro-Turbine, PV and Wind Turbine Systems	
A. Helal, W. Ghoneim, A. Halaby	227
Role of Energy Storage on Distribution Transformer Loading in Low Voltage Distribution	
M. T. Arif, A. M. T. Oo, A. B. M. S. Ali	

The figure on the front cover is from the article published in Smart Grid and Renewable Energy, 2013, Vol. 4, No. 2, pp. 202-212 by Ebisa Negeri, Nico Baken and Marjan Popov.

Copyright © 2013 SciRes.

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

#### **Journal Information**

#### SUBSCRIPTIONS

The Smart Grid and Renewable Energy (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$59 per copy.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

#### **SERVICES**

#### Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

#### Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

#### **COPYRIGHT**

Copyright@2013 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

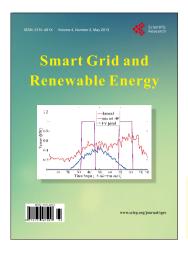
Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assumes no responsibility or liability for any damage or injury to persons or property arising out of the use of 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

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 Sreeram University of Western Australia, Australia

**Prof. Yuanzhang Sun** Wuhan University, China

# **Editorial Advisory Board**

**Prof. Ching Chuen Chan** University of Hong Kong, China

Dr. 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 refereed 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