



ENERGY 2022

The Twelfth International Conference on Smart Grids, Green Communications and
IT Energy-aware Technologies

May 22nd –26th, 2022

Venice, Italy

ENERGY 2022 Editors

Vivian Sultan, California State University Los Angeles, USA

Oana Dini, IARIA, USA

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2022) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed with permission by Curran Associates, Inc. (2023)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

GIS Deep Learning for Power Assets' Detection and Identification <i>Vivian Sultan, Jose Ramirez, Jordan Peabody, and Madison Bautista</i>	1
Improved Data Preprocessing Approach to Short-Term Load Forecasting <i>Athanasios Ioannis Arvanitidis and Dimitrios Bargiotas</i>	6
Attention-guided Temporal Convolutional Network for Non-intrusive Load Monitoring <i>Huamin Ren, Xiaomeng Su, Robert Jenssen, Jingyue Li, and Stian Normann Anfinsen</i>	11
Constraint-based Modeling of Smart Grid Services in ICT-Reliant Power Systems <i>Frauke Oest and Sebastian Lehnhoff</i>	15
Training an Energy Management Simulation with Multi-Agent Reinforcement Learning <i>Alexander Haemmerle, Kapil Deshpande, Philipp Moehl, and Georg Weichhart</i>	22
Performance of Linear Programming in Optimizing the Energy Schedule of a Grid-connected Hybrid System Compared to Particle Swarm Optimization <i>Hoda Elaouni, Hussein Obeid, Stephane Le Masson, Hamid Gualous, and Olivier Foucault</i>	30
Photovoltaic Generation Forecasting – A Case Study <i>Sinan Wannous, Isabel Praca, Rui Andrade, and Sergio Ramos</i>	36
Energy Efficiency of Parallel File Systems on an ARM Cluster <i>Timm Leon Erxleben, Kira Duwe, Jens Saak, Martin Kohler, and Michael Kuhn</i>	42