

CIMEF 2022

Special Session on Computational Intelligent Methods in Energy Forecasting

at the 14th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2022)

Almaty, Kazakhstan, June 6-9, 2022

Conference website: <http://www.aciids.pwr.edu.pl/>

Special Session Organizers

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Objectives and topics

Accurate energy forecasting is important to facilitate the decision-making process in order to achieve higher efficiency and reliability in power system operation and security, economic energy use, contingency scheduling, the planning and maintenance of energy supply systems, and so on. In the past decades, many energy forecasting models have been continuously proposed to improve the forecasting accuracy, including traditional statistical models (e.g., ARIMA, SARIMA, ARMAX, multi-variate regression, exponential smoothing models, Kalman filtering, Bayesian estimation models, etc.) and artificial intelligence models (e.g., artificial neural networks (ANNs), knowledge-based expert systems, evolutionary computation models, support vector regression, etc.).

Recently, due to the great development of optimization modelling methods (e.g., quadratic programming method, differential empirical mode method, evolutionary algorithms, meta-heuristic algorithms, etc.) and intelligent computing mechanisms (e.g., quantum computing, chaotic mapping, cloud mapping, seasonal mechanism, etc.), many novel hybrid models or models combined with the above-mentioned intelligent-optimization-based models have also been proposed to achieve satisfactory forecasting accuracy levels. It is worthwhile to explore the tendency and development of intelligent-optimization-based modelling methodologies and to enrich their practical performances, particularly for marine renewable energy forecasting.

All submissions should be based on the rigorous motivation of the mentioned approaches, and all the developed models should also have a corresponding theoretically sound framework. Works lacking such a scientific approach are discouraged. Validation support of existing/presented approaches is encouraged to be done using real practical applications. Potential topics include but are not limited to the following:

- statistical forecasting models (ARIMA, SARIMA, ARMAX, multi-variate regression, Kalman filter, exponential smoothing, etc.)
- artificial neural network (ANNs) models
- knowledge-based expert system models
- fuzzy theory and fuzzy inference system models
- evolutionary computation models

- support vector regression (SVR) models
- hybrid models
- combined models
- evolutionary algorithms
- meta-heuristic algorithms
- seasonal mechanisms (single seasonal mechanism multiple seasonal mechanism)
- intelligent computing mechanisms (chaotic mapping mechanism quantum computing mechanism cloud mapping mechanism)
- marine renewable energy forecasting
- electric load forecasting
- energy forecasting.
- energy forecasting

Important dates

Submission of papers: **15 January 2022**
 Notification of acceptance: **1 March 2022**
 Camera-ready papers: **15 March 2022**
 Registration & payment: **15 March 2022**
 Conference date: **6-9 June 2022**

Program Committee (to be invited)

Xiaolong Yang, Northeast Petroleum University, China
 Zichen Zhang, Jiangsu Normal University, China
 Wenbo Zhang, University of Alberta, Canada
 Keke Wang, Zhengzhou University, China
 Xiaomin Xu, North China Electric Power University, China
 Zhiliang Dong, Hebei GEO University, China
 Chao Ding, China University of Geosciences, China

Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. Authors are invited to submit their papers electronically in pdf format, through EasyChair. All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: ***CIMEF 2022: Special Session on Computational Intelligent Methods in Energy Forecasting.***

<https://easychair.org/conferences/?conf=aciids2022>

Authors are invited to submit original previously unpublished research papers written in English, of up to 13 pages, strictly following the LNCS/LNAI format guidelines. Authors can download the Latex (recommended) or Word templates available at [Springer's web site](#). Submissions not following the format guidelines will be rejected without review. To ensure high quality, all papers will be thoroughly reviewed by the CIMEF 2022 Program Committee. All accepted papers must be presented by one of the authors who must register for the conference and pay the fee. The conference proceedings will be published by Springer in the prestigious series LNCS/LNAI (indexed by ISI CPCI-S, included in ISI Web of Science, EI, ACM Digital Library, dblp, Google Scholar, Scopus, etc.).