

## عنوان مقاله:

Artificial Neural Network-Cuckoo Optimization Algorithm (ANN-COA) for Optimal Control of Khorramabad Wastewater Treatment Plant, Iran

## محل انتشار:

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## نویسندگان:

Samaneh Khademikia - *Young Researchers and Elite Club, Khorramabad Branch, Islamic Azad University, Khorramabad, Iran. Department of Environmental Health Engineering, Health faculty, Lorestan University of Medical Science, Khorramabad, Iran*

Ali Haghizadeh - *Department of Watershed Engineering, Faculty of Natural Resources, Lorestan University, Khorramabad, Iran*

Hatam Godini - *Department of Environmental Health Engineering, Health faculty, Alborz University of Medical Science, Karaj, Iran*

Ghodratollah Shams Khorramabadi - *Department of Environmental Health Engineering, Health faculty, Lorestan University of Medical Science, Khorramabad, Iran*

## خلاصه مقاله:

In this study a hybrid estimation model ANN-COA developed to provide an accurate prediction of a Wastewater Treatment Plant (WWTP). An effective strategy for detection of some output parameters tested on a hardware setup in WWTP. This model is designed utilizing Artificial Neural Network (ANN) and Cuckoo Optimization Algorithm (COA) to improve model performances; which is trained by a historical set of data collected during a 6 months operation. ANN-COA based on the difference between the measured and simulated values, allowed a quick revealing of the faults. The method could obtain the fault detection and used in solving continuous and discrete optimization problems, successfully. After constructing and modelling the method, selected performance indices including coefficient of Regression, Mean-Square Error, Root-Mean-Square Error and Aggregated Measure used to compare the obtained results. This analysis revealed that the hybrid ANN-COA model offers a higher degree of accuracy for predicting and control the WWTP

## کلمات کلیدی:

Wastewater Treatment Plant; Artificial Neural Networks; Cuckoo Optimization Algorithm; Prediction Analysis; Reliability

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/630143>



