Use of Neural Networks to Optimize Biological Treatment Processes
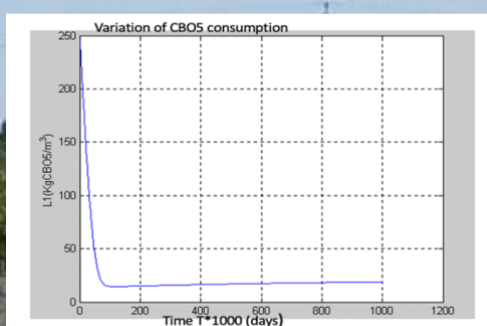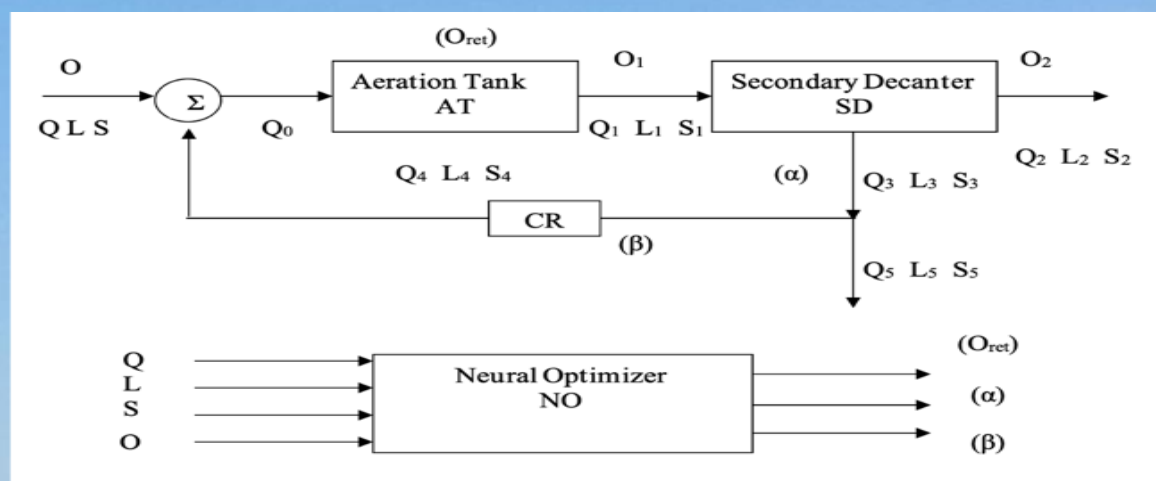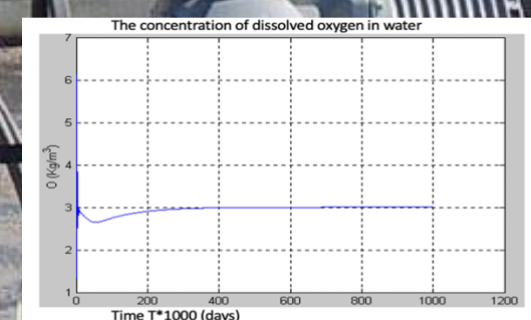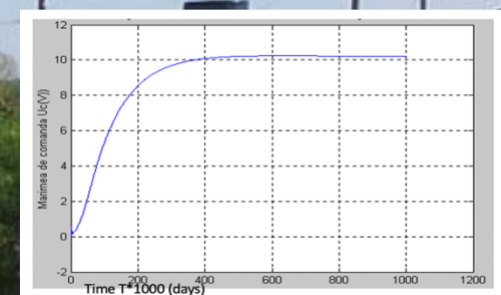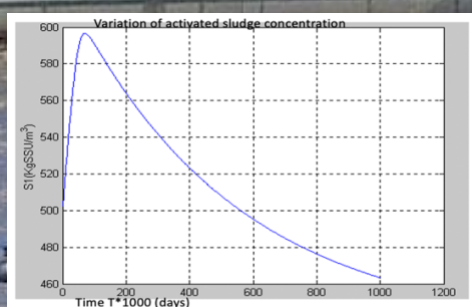

- In this paper we try to give a modeling method with neural networks of an activated sludge wastewater treatment process. The neural model is useful for predicting process outputs.
- The advantage of using this method is the fact that, in order to obtain a very good prediction capacity, no previous knowledge is necessary to the mathematical model of the process, but only the data recorded in the process.
- The disadvantage is that the amount of data required is very large. The data must characterize the process throughout all operating regimes in which the pattern will be exploited.
- For the dynamic modeling of the processes in the biological stage of the sewage treatment plant, several original models based on the principle of mass balance for the biological loading, activated sludge and oxygen transferred from air to water were developed.

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