

# **Nonlinear Model Predictive Control Of Hammerstein And Wiener Models using Genetic Algorithms**

Al-Duwaish, H. Naeem, W.; Dept. of Electr. Eng., King Fahd Univ. of Pet. Miner.,  
Dhahran;

**Control Applications, 2001. (CCA '01). Proceedings of the 2001 IEEE International  
conference; Publication Date: 2001; ISBN: 0-7803-6733-2**

King Fahd University of Petroleum & Minerals

**<http://www.kfupm.edu.sa>**

## **Summary**

Model predictive control or MPC can provide robust control for processes with variable gain and dynamics, multivariable interaction, measured loads and unmeasured disturbances. In this paper a novel approach for the implementation of nonlinear MPC is proposed using genetic algorithms (GAs). The proposed method formulates the MPC as an optimization problem and genetic algorithms are used in the optimization process. Application to two types of nonlinear models namely Hammerstein and Wiener Models is studied and the simulation results are shown for the case of two chemical processes to demonstrate the performance of the proposed scheme

For pre-prints please write to: [abstracts@kfupm.edu.sa](mailto:abstracts@kfupm.edu.sa)