*Environmental Engineering and Management Journal*

*August 2011, Vol.10, No. 8, 1161-1167*
*http://omicron.ch.tuiasi.ro/EEMJ/*

*"Gheorghe Asachi" Technical University of Iasi, Romania*

# SYSTEM IDENTIFICATION TOOLS FOR THE STABILIZATION OF THE WASTE-BED TEMPERATURE WITHIN A WASTE-TO-ENERGY PLANT

**Adrian Danila**

*"Transilvania" University of Brasov, Faculty of Electrical Engineering and Computer Science, Chair of Automatics, 5 M. Viteazu Street, 500174 Brasov, Romania, e-mail: adrian.danila@unitbv.ro, Phone/Fax: +40268418836*

**Abstract**

Incineration plants are used since the beginning of the twentieth century to transform the mixed municipal waste into thermal energy and to convert the hazardous components of waste into harmless compounds. To minimize the environmental pollution and maximize the energy efficiency of the produced energy, the control of the complex processes that occur into the waste to energy conversion is of major importance. In this work, the system identification approach is used to determine the dynamic model of the incineration processes and is analyzed in contrast with the theory-based models. The analysis' results prove that the system identification algorithms produce consistent estimates for the given processes.

*Key words:* heat transfer, process modelling, waste treatment

*Received: March, 2011; Revised final: August, 2011; Accepted: August, 2011*