

Preface	VII
Scientific Programme	1
Author Listing	161

COMPLEX SYSTEMS SIMULATION

Drivers, Benefits and Approaches of Software System Simulation	
Christian D. Bodemann and Michael Irvine	5
A simulation based process for the construction of correct models	
Riadh Ben Halima, Khalil Drira and Mohamed Jmaiel	12
Path following for under actuated marine craft using Line of Sight algorithm	
J. Ghommen, F. Mnif and N. Derbel	20
Statistical Approach for Analysis of Energy System Losses in Jordan	
Nabeel Tawalbeh and Ayman Agha.....	27

LOGISTICS SIMULATION

Reverse Logistics of end of Life Vehicles Modelling and Simulation of Collection and Disassembly	
Gabriella Maria Acaccia, Rinaldo Carlo Michelini and Nicola Qualich.....	35
Mixed Automation of a sorting Postal Facility Design and Performance Assembly	
Gabriella Maria Acaccia, Rinaldo Carlo Michelini and Nicola Qualich.....	41
Stable and robust feedback linearization adaptive fuzzy control of SISO nonlinear systems using Takagi Sugeno fuzzy models	
D. Ben Halima and M. Chtourou	49

NEURAL NETWORKS IN INDUSTRIAL APPLICATIONS

Modeling of Abrasive Fluid Micro Machining by Polynomial Neural Networks and Genetic Algorithms	
M. Alitavoli Nariman-zadeh, A. Khalkhali and M. Mehran	59
Characterization of petroleum wells using fuzzy systems	
Rafika Hamza, Khaled Mechichi, Abdellaziz Aboud and Nabil Derbel	64

CONTENTS

Optimal Control of a Container Crane by A Fuzzy Logic Controller, Robustness and Stability Najla Krichen Masmoudi, Mohamed Djemel and Chokri Rekik.....	70
---	----

SIMULATION OF PID CONTROLLERS

On the Particularities of Hysteresis Band Widths in Takahashi DTC Strategy: the So-called Focal Speeds	
---	--

Fatma Ben Salem and Ahmed Masmoudi	79
--	----

PID Control Design of A Blower System using the Pole Compensation Technique	
--	--

Houda Ben Jmaa Derbel.....	85
----------------------------	----

On the design of fuzzy supervised PI controller based on gain and phase margin specifications	
--	--

L.Tounsi-Rekik and M. Chtourou	90
--------------------------------------	----

PID Neural Tuning for Integrating Processes	
--	--

R. Chibani and M. Chtourou	95
----------------------------------	----

PHONE NETWORK SIMULATION

Service-Aware Routing Protocols (SARP): Exploiting mobility with loose delay constraints in ad hoc networks	
--	--

M. Alchaita, M. Al-Akaidi and J. Ivins	101
--	-----

Effects of Handoffs on the Performance of Cellular Systems Using Simulation	
--	--

Nada Al-Khatib and Jamal S. Rahhal.....	106
---	-----

Computational Aspects to Calculate the Interference between the High Voltage Transmitters and Communication Cables	
---	--

Ghada M. Amer.....	111
--------------------	-----

IMAGE AND DATA MANIPULATION SIMULATION

Image segmentation based on games theory approach Application to melanoma pattern extraction	
---	--

Amin Kallel and Imene Khanfir.....	119
------------------------------------	-----

CONTENTS

Implementation of 9/7 and 5/3 filters by the *Lifting Scheme*
Dhaha Dia, Mohamed Atri and Rached Tourki.....126

**Face Recognition using Linear Analysis Techniques and Neural Networks
Based Approaches**
Ichraq Ben Aouicha, Tarek Tray and Dorra Sellami Masmoudi134

DATA MODELLING AND SIMULATION

The Capability of reducing the PAPR by Turbo Coding
Omar Daoud, Marwan Al-Akaidi and Jon Ivins.....143

Data Mining for Generating Predictive Models of Automatic Speech Recognition
Ayad T. Al-Zobaydi, Marwan M. Al-Akaidi and Robert I. John147

Simulation and FPGA Implementation of a Simple Computer
Kasim M. Al-Aubidy, Ra'ed F. Al-Bader, Ala'a A. Smadi151