

European Modeling and Simulation Symposium

(EMSS 2007)

Held at the International Mediterranean Modeling Multiconference

**Bergeggi, Italy
4 - 6 October 2007**

Editors:

**Agostino G. Bruzzone
Francesco Longo**

**Yuri Merkuryev
Miquel Angel Piera**

ISBN: 978-1-62993-461-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2007) by CAL-TEK S.r.l.
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact CAL-TEK S.r.l.
at the address below.

CAL-TEK S.r.l.
Via Spagna 240-242
87036 Rende (CS)
Italy

Phone: +39 333 7042 612
Fax: +39 0984 937849

info@cal-tek.eu

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

EMSS'07, MAS'07, HMS'07

Session CO-I: High Level, distributed & Continuous Simulation

HIERARCHICAL INTELLIGENT HIGH-LEVEL SIMULATION, Tudor Nicu-liu, Anton Manolescu, Sorin Cotofana

ANALYZING SIMULTANEOUS EVENTS IN DISTRIBUTED SIMULATION, Patrick Peschlow, Peter Martini

ADAPTING AN EJECUTABLE ENTERPRISE MODEL ENVIRONMENT FOR HL, Gutiérrez, Ma. De los Milagros, Leone Horacio P.

SIMULATION OF TELECOMMUNICATION FLOWS USING FLUID DYNAMIC MODELS, Alfredo Cutolo, Raffaella Frattaruolo, Rosanna Manzo

Session CO-II: Petri Nets I

AN EFFICIENT CPN SIMULATOR: NEW RESULTS, Miguel Mujica, Miquel Angel Piera

A SERVICE-BASED CONTROL ENGINE FOR THE DISTRIBUTED EXECUTION OF PETRI NETS AND ITS APPLICATION TO WORKFLOW MANAGEMENT SYSTEMS, Franco Cicirelli, Angelo Furfaro, Libero Nigro

INNOVATIVE APPROACH FOR MODELLING GOODS FLOWS IN RETAIL STORES, Agostino Bruzzone, Enrico Bocca, Simonluca Poggi

INFERENCE TECHNIQUE BASED ON PRECEDENTS IN KNOWLEDGE BASES OF INTELLIGENCE SYSTEMS, Boris Evgenievich Fedunov

Session CO-III: Agent Directed Simulation

RELIABILITY IN AGENT-DIRECTED SIMULATION: (AGENT SIMULATION, AGENT-SUPPORTED SIMULATION, AND AGENT-BASED SIMULATION), Tuncer Ören

AGENT BASED PARADIGMS AND ENTERPRISE SIMULATION FOR E-LEARNING AND KNOWLEDGE TRANSMISSION, Marco Remondino

MODELING THE EMERGENT BEHAVIOR USING THE MULTI/AGENT CONDITIONAL INTERPLAY, Serhiy Kovala

SIMULATION BASED CONTRACT MANAGEMENT IN INTELLIGENT ROBOTIC AGENT SYSTEM, Witold Jacak, Karin Pröll

Session CA-I: M&S in manufacturing I

SIMULATION-BASED VALIDATION OF PRODUCTION CONTROL DECISIONS, SUBJECT TO RESOURCE AVAILABILITY, András Pfeiffer, Botond Kádár, László Monostori

TIME AND ERGONOMIC ANALYSIS IN A HAND-CRAFTED MANUFACTURING PROCESS, G. Mirabelli

THE RELEVANCY OF MOVES DEFINITION IN THE SIMULATION-BASED OPTIMIZATION OF MANUFACTURING SYSTEMS, Pasquale Legato, Roberto Trunfio, Francesco Mari

SIMULATION AS DECISION SUPPORT SYSTEM FOR MANAGING POWER PLANTS POOL MAINTENANCE, Agostino Bruzzone, Chiara Briano, Enrico Briano

CONCURRENT EVALUATION OF MANUFACTURING COST IN PRODUCT DESIGN AND SIMULATION, Stefano Moroni, Francesco Bianconi, Paolo Conti

Session CA-II: Industrial design and Modeling & Simulation I

A ROBUST MOTOR AND SERVO DRIVE MODEL FOR REAL-TIME MACHINE TOOL SIMULATION, Johan Fredin, Johan Wall, Anders Jönsson, Göran Broman

INCREASING PRODUCTIVITY THROUGH ENHANCED SIMULATION SUPPORT IN MANUFACTURING, Johan Wall, Johan Fredin, Anders Jönsson, Göran Broman

MODELLING AND SIMULATION OF ADVANCED POWER GENERATORS, Jesús Lozano, Amable López, Juan Carlos Sirviente, Antonio Benitez

MODELING OF THE TROPOSPHERIC WATER VAPOR (ON THE EXAMPLE OF TARTU), K.Rannat, P.Miidla, P.Uba

Session CA-III: Industrial design and Modeling & Simulation II

DYNAMIC SIMULATION OF A SUCROSE BATCH EVAPORATIVE CRYSTALLIZER FOR OPERATORS TRAINING, Rogelio Mazaeda, César de Prada.

STAKEHOLDERS SATISFACTION IN RETAIL BUSINESS BASED ON INNOVATIVE MODEL SOLUTION, Agostino Bruzzone, Luca Pierfederici, Matteo Mazzaresse, Marina Massei

MODELLING AND SIMULATION OF A BEET PULP DRYER, Merino A., Alves R., Acebes L. F., De Prada C.

ADVANCED MODELS FOR PERFORMANCE CONTROL IN SUPERMARKET LOGISTICS MANAGEMENT, Agostino Bruzzone, Enrico Bocca, Luca Pierfederici, Marina Massei, Simonluca Poggi

Session CO-IV: Simulation visualization and control of complex system

MODELLING, SIMULATION AND CONTROL OF THE BELL 206L-4 HELICOPTER, Pedro Balaguer, Ramon Vilanova

AN EXPERIMENTAL ENVIRONMENT FOR THE RUNTIME COMMUNICATION AMONG DIFFERENT SOLVERS AND VISUALIZATION MODULES, Fabio Bruno, Francesco Caruso, Maurizio Muzzupappa, Andre Stork

LIVE RANGE AWARE CACHE AND ITS EVALUATION METHODOLOGY, Meijuan Lu, Dongsheng Wang, Peng Li, Youhui Zhang

INTEROPERABLE SIMULATION FOR TRAINING IN INTERMODAL LOGISTICS IN LAND TERMINAL, Matteo Brandolini, Davide Modula, Attilio Rocca

POLARIZATION EFFECTS IN MODELLING UNSTEADY-STATE REVERSE OSMOSIS, Cristiano Cerrato, Luigi Maga, Andrea Pietro Reverberi, Agostino G. Bruzzone

Session CO-V: M&S in manufacturing II

MODELING & SIMULATION FOR WORKPLACES ANALYSIS IN THE LEATHER INDUSTRY, G. De Sensi, F. Longo, G. Mirabelli

SIMULATION MODELING OF A MANUFACTURING VINYL FLOOR SYSTEM TO IMPROVE PRODUCTIVITY AND QUALITY Gabriela Arana, Carolina Rodríguez, Isis Castillo, Francisco J. Ruiz-Sánchez

INVENTORY POLICIES COMPARISON IN A MANUFACTURING PLANT BY USING MODELING AND SIMULATION, D. Curcio, F. Longo, G. Mirabelli

Session CO-VI: Petri Nets II

AN EFFICIENT CPN MODELING APPROACH TO TACKLE THE PALLET PACKING PROBLEM, Miquel Angel Piera, Roman Buil

A CPN MODEL FOR CREW MANAGEMENT, M. Piera, M. Narciso

PETRI NET MODELLING AND DEADLOCK ANALYSIS OF PROGRAMMABLE LOGIC CONTROL, Gasper Music, Borut Zupancic

Session CO-VII: Simulation & Optimization

AN OPEN-SOURCE DISCRETE EVENT SIMULATION-BASED OPTIMIZATION PACKAGE, Pasquale Legato, Roberto Trunfio

HELPDESK MODELING AND SIMULATION WITH DISCRETE EVENT SYSTEMS AND FUZZY LOGIC, I. Castilla, R. Muñoz, P. Baquero, R. M. Aguilar

HEURISTIC OPTIMIZATION METHODS FOR THE TUNING OF INPUT PARAMETERS OF SIMULATION MODELS, Michael Affenzeller, Gabriel Kronberger, Stephan Winkler, Mihaela Ionescu, Stefan Wagner

USING THE DESIGN OF EXPERIMENT FOR SIMULATION OF FACTOR'S BEHAVIOR-A CASE STUDY ON INORGANIC CHEMISTRY, Mahdi Bashiri, Sheida Ansar

VALUE-BASED SOFTWARE ENGINEERING USING THE ADAPTED TWIN-PEAKS MODEL, Herwig Mayr

Session CA-IV: Emergency Simulation & Crowd Behavior

CROWD MODEL VERIFICATION USING VIDEO DATA, Thomas L. Clarke, D. J. Kaup, Linda Malone, Rex Oleson, Mario Rosa

A TWO-STAGE APPROACH FOR THE EMERGENCY SERVICES COORDINATION PROBLEM IN A ROAD ACCIDENT, D. Guimarans, J.J. Ramos

MODELLING EMERGENCIES WITH A PRIORITY STOCHASTIC SYSTEM, Annunziata Cascone, Luigi Rarità, Eliza Trapel

SUPPLY CHAIN RISK MODEL RECOGNITION, R.Klimov, Y.Merkuryev

Session CA-V: M&S in logistics and supply chain management I

SIMULATION-BASED ENVIRONMENT FOR MULTI-ECHELON CYCLICAL PLANNING AND OPTIMISATION, Galina Merkuryeva, Yuri Merkuryev, Liana Napalkova

EVALUATION OF ACQUISITION DEPOTS IN TECHNICAL SERVICE LOGISTICS, Tuomas Tolvanen

SINGLE-CARD KANBAN REPLENISHMENT WITH VARYING TRANSPORTERS, S. T. Enns

SIMULATION AS DECISION SUPPORT SYSTEM FOR QUICK RESPONSE SUPPLY CHAIN, Luca Pierfederici, Davide Modula, Alberto Tremori

Session CA-VI: M&S in logistic and supply chain management II

STUDENTS TRAINING: INTEGRATED MODELS FOR SIMULATING A CONTAINER TERMINAL, F. Longo

DISTRIBUTED SIMULATION FOR TRAINING IN RIVER LOGISTICS, Davide Modula, Attilio Rocca, Alberto Tremori

SIMULATION MODELING ANALYSIS OF THE LOGISTIC IN A TELEMEDICINE SYSTEM FOR ISOLATED COMMUNITIES IN MEXICO Erik Jayme, Francisco Cabadas, Juan Pablo Rojas, Isis Castillo, Francisco J. Ruiz-Sánchez

Session CA-VII: M&S in logistic and supply chain management III

GOODS CONTAMINATION AND EXTERNAL ATTACKS: MODELING VALUE CHAIN DYNAMICS IN RETAIL BUSINESS, Agostino Bruzzone, Matteo Mazzaresse, Alberto Tremori

THE PROBABILISTIC APPROACH TO THE DETERMINATION OF CONSUMPTION VOLUMES AND REPAIRING THE PIECES OF HYDROCARBON'S EQUIPEMENTS, H.Meglouli, E.Bouali

MODELLING OF MULTIMODAL FLOWS IN LOGISTIC USING A NONPARAMETRIC METHOD, V.Jurenoks, V.Jansons, K.Didenko

VEHICLE DISPATCHING WITH REALTIME LOCATION INFORMATION AT CONTAINER TERMINALS, Xi GUO, Shell Ying HUANG, Wen Jing HSU, Malcolm Yoke Hean LOW