20th European Modeling and Simulation Symposium

(EMSS 2008)

Held at the International Mediterranean and Latin American Modeling Multiconference

Amantea, Italy
17-19 September 2008

Editors:
Agostino Bruzzone
Francesco Longo
Miquel Angel Piera
Rosa M. Aguilar
Claudia Frydman

ISBN: 978-1-62993-462-4
## Index

### Soft Computing and Modeling and Simulation

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELF-LEARNING NAVIGATION MAPS BASED UPON DATA-DRIVEN MODELS USING HETEROGENEOUS GPS TRACKS</td>
<td>Clemens Novak, Barbara Franz, Herwig Mayr, Michal Vesely</td>
<td>1</td>
</tr>
<tr>
<td>BIOMIMETIC MIDDLEWARE FOR WIRELESS SENSOR NETWORKS</td>
<td>Zenon Chaczko</td>
<td>7</td>
</tr>
<tr>
<td>CARDIOSCOPE SIMULATOR SYSTEM</td>
<td>Zenon Chaczko, Hany Shehata</td>
<td>15</td>
</tr>
<tr>
<td>A SMART-SHOP SYSTEM - MULTIAGENT SIMULATION SYSTEM FOR MONITORING RETAIL ACTIVITIES</td>
<td>Zenon Chaczko, Christopher Chiu</td>
<td>20</td>
</tr>
<tr>
<td>SUBPROBLEM SOLVING AND MACHINE PRIORITIZATION IN THE SHIFTING BOTTLENECK PROCEDURE FOR WEIGHTED TARDINESS JOB SHOPS</td>
<td>Roland Braune</td>
<td>27</td>
</tr>
<tr>
<td>A CLUSTER-BASED OPTIMIZATION APPROACH FOR THE VEHICLE ROUTING PROBLEM WITH TIME WINDOWS</td>
<td>Michael Bögl</td>
<td>33</td>
</tr>
<tr>
<td>SENSOR NETWORK BASED CONFLICT RESOLUTION IN AUTONOMOUS MULTIAGENT SYSTEMS</td>
<td>Witold Jacak, Karin Pröll</td>
<td>39</td>
</tr>
<tr>
<td>MODELLING OF IMMUNE FUNCTIONS IN A WIRELESS SENSORS NETWORK</td>
<td>Jan Nikodem, Ryszard Klempous, Zenon Chaczko</td>
<td>45</td>
</tr>
<tr>
<td>TWO-PHASE SIMULATION OPTIMISATION PROCEDURE WITH APPLICATIONS TO MULTI-ECHelon CYCLIC PLANNING</td>
<td>Galina Merkuryeva, Liana Napalkova</td>
<td>51</td>
</tr>
<tr>
<td>EFFECTIVE ALLELE PRESERVATION BY OFFSPRING SELECTION: AN EMPIRICAL STUDY FOR THE TSP</td>
<td>Michael Affenzeller, Stefan Wagner, Stephan Winkler</td>
<td>59</td>
</tr>
<tr>
<td>INCORPORATING PHYSICAL KNOWLEDGE ABOUT THE FORMATION OF NITRIC OXIDES INTO EVOLUTIONARY SYSTEM IDENTIFICATION</td>
<td>Stephan Winkler, Markus Hirsch, Michael Affenzeller, Luigi del Re, Stefan Wagner</td>
<td>69</td>
</tr>
<tr>
<td>SIMULATION OPTIMIZATION WITH HEURISTICLAB</td>
<td>Andreas Beham, Michael Affenzeller, Stefan Wagner, Gabriel Kronberger</td>
<td>75</td>
</tr>
<tr>
<td>RECOGNITION OF TRANSITIONS BETWEEN DIFFERENT PHASES OF THE PRODUCT LIFE CYCLE</td>
<td>Anatoly Sukov</td>
<td>81</td>
</tr>
<tr>
<td>EVOLUTIONARY METAMODELLING OF DISCRETE-EVENT SIMULATION MODELS</td>
<td>Birkan Can, Gearoid Murphy, Cathal Heavey</td>
<td>87</td>
</tr>
<tr>
<td>DATA MINING VIA DISTRIBUTED GENETIC PROGRAMMING AGENTS</td>
<td>Gabriel Kronberger, Stephan Winkler, Michael Affenzeller, Stefan Wagner</td>
<td>95</td>
</tr>
<tr>
<td>OPTIMIZATION OF MEDICAL ULTRASOUND TRANSDUCERS WITH SIMULATION AND GENETIC ALGORITHMS</td>
<td>Monika Kofler, Andreas Beham, Michael Affenzeller, Stefan Wagner</td>
<td>100</td>
</tr>
<tr>
<td>MODELING OF HEURISTIC OPTIMIZATION ALGORITHMS</td>
<td>Stefan Wagner, Gabriel Kronberger, Andreas Beham, Stephan Winkler, Michael Affenzeller</td>
<td>106</td>
</tr>
</tbody>
</table>
Virtual Reality and Visualization

A CAD SYSTEM IN AUGMENTED REALITY APPLICATION, Pier Paolo Valentini, Davide Gattamelata, Eugenio Pezzuti

SPHERICAL HARMONICS ALGORITHM FOR DYNAMIC LIGHT IN REAL TIME, Lien Muguercia Torres

A NEW HAPTIC-BASED TOOL FOR TRAINING IN MEDICINE, Tommaso Ingrassia, Vincenzo Nigrelli

A WEB3D APPLICATION FOR THE BIN-PACKING PROBLEM, Fabio Bruno, Francesco Caruso, Ornella Pisacane, Roberto Musmanno, Maurizio Muzzupappa, Francesco Rende, Giovanni Venuto

MIXED-REALITY ENVIRONMENT BASED ON HAPTICS AND INTERACTIVE SIMULATION FOR PRODUCT DESIGN REVIEW, Monica Bordegoni, Francesco Ferrise, Marco Ambrogio, Giandomenico Caruso, Fabio Bruno, Francesco Caruso

Industrial Processes Modeling & Simulation

SIMULATION ANALYSES OF NON-KINEMATIC CONICAL ROLL BENDING PROCESS WITH CONICAL ROLLS, Zhengkun Feng, Henri Champliaud, Thien-My Dao

LIBRARY FOR DYNAMIC SIMULATION OF REVERSE OSMOSIS PLANTS, Luis G. Palacin, Cesar de Prada, S. Syafie, Fernando Tadeo

USING AN ADVANCED DISCRETE-EVENT SIMULATION FRAMEWORK TO PRODUCTIVE CAPACITY MANAGEMENT OF A CAR-PARTS FACTORY, Adrián M. Aguirre, Enrique J. Müller, Sebastián E. Seffino, Carlos A. Méndez

CLASSIC AND ADVANCED MODELS FOR CONTROLLING HVAC SYSTEMS IN A UNIVERSITY BUILDING, Eladio Sanz, Belén Pérez-Lancho, Pastora Vega, Mario Francisco

MODELING AND EVALUATION OF ALTERNATIVE PRODUCTION SCENARIOS IN THE FIELD OF COMPOSITE MANUFACTURING, Bernd Scholz-Reiter, Michael Lütjen

ENERGY EFFICIENCY IN A STEEL PLANT USING OPTIMIZATION-SIMULATION, Ivan Ferretti, Simone Zanoni, Lucio Zavanella

OBJECT ORIENTED LIBRARY FOR DYNAMIC MODELING AND SIMULATION OF SUGAR HOUSES FOR OPERATORS TRAINING, Rogelio Mazaeda, César de Prada

ANALYSIS AND OPTIMIZATION OF COMPLEX SMALL-LOT PRODUCTION IN NEW MANUFACTURING FACILITIES BASED ON DISCRETE SIMULATION, Václav Votava, Zdenek Ulrych, Milan Edl, Michal Korecky, Václav Trkovský

A MODEL FOR ENERGY PREDICTIONS OF A HOTEL ROOM, Adriana Acosta Corzo, Ana Isabel González Santos, Jesús M. Zamarreho Cosme, Victor Alvarez Castelló

A STOCHASTIC APPROACH TO IMPROVE PERFORMANCE OF PRODUCTION LINES, Cecilia Zanni, Philippe Bouché

CACS3D TOOL FOR SIMULATION AND PERFORMANCE OF MULTI-RATE SAMPLED-DATA SYSTEMS, Yolanda Cerezo, Ignacio López, Alfredo Cuesta, Luis Grau

EVALUATION AND OPTIMISATION OF MANUFACTURING SYSTEM USING SIMULATION
MODELLING AND DESIGN OF EXPERIMENT, Vittorio Cesarotti, Bruna Di Silvio, Vito Introna, Giovanni Mori

DATA DRIVEN ADAPTIVE MODEL PREDICTIVE CONTROL WITH CONSTRAINT, Norhaliza Abdul Wahab, Jonas Balderud, Reza Katebi

PEDESTRAIN CELLULAR AUTOMATA AND INDUSTRIAL PROCESS SIMULATION, Alan Jolly, Rex Oleson II, David Kaup

Emergency Simulation & Supply Chain Risk and Vulnerability

SIMULATION MODEL OF AIRPORT RUNWAY INCURSIONS, Luigi Careddu, Francesco Costantino, Giulio Di Gravio

MATHEMATICAL MODELS OF GAS FIRED BOILERS, Renzo Tosato

TOWARD AN INTEGRATION OF RISK ANALYSIS IN SUPPLY CHAIN ASSESSMENT, Jean-Claude Hennet, Jean-Marc Mercantini, Isabel Demongodin

SUPPLY CHAIN MANAGEMENT THROUGH P AND PI CONTROLLERS, Carlos Andres Garcia, Pedro Balaguer, Ramón Vilanova

FUZZY SIMULATION FOR INFRASTRUCTURE EFFECTS UNCERTAINTY ANALYSIS, Donald Dudenhoeffer, Milos Manic

Distributed and Parallel Simulation

A PARALLEL PROGRAMMING METHODOLOGY USING COMMUNICATION PATTERNS NAMED CPANS OR COMPOSITION OF PARALLEL OBJECT, Mario Rossainz López, Manuel I. Capel Túnón

ANALYSIS OF TIME WARP ON A 32,768 PROCESSOR IBM BLUE GENE/L SUPERCOMPUTER, Akintayo O. Holder, Christopher D. Carothers

DISCRETE EVENT SIMULATION WITH UNIVERSAL PROGRAMMING LANGUAGES ON MULTICORE PROCESSORS, Thomas Wiedemann

TEMPLATES FOR DISTRIBUTED AGENT-BASED SIMULATIONS ON A QUASI OPPORTUNISTIC GRID, Laszlo Gulyas, Walter de Back, Gabor Szemes, Krzysztof Kurowski, Werner Dubitzky, George Kampis

Simulation and Artificial Intelligence

ON-BOARD OPERATIVE ADVISED EXPERT SYSTEMS FOR ONE-SEAT AIRCRAFTS AND STRUCTURE OF THEIR KNOWLEDGE BASES, Boris Fedunov

MODELING AND SIMULATION OF A NANOSTRUCTURE FOR A SINGLE ELECTRON TECHNOLOGY IMPLEMENTATION, Cristian Ravariu, Adrian Rusu, Ală Bondarciuc, Florina Ravariu, Tudor Niculiu, Florin Babarada, Vlad Bondarciuc
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOME ESTHETICAL VALENCES OF THE SPATIAL LOCALITY. TOWARDS ARTIFICIAL ESTHETICS</td>
<td>Cristian Lupu</td>
<td>316</td>
</tr>
<tr>
<td>HIERARCHICAL INTELLIGENT ANALOG SIMULATION,</td>
<td>Tudor Niculiu, Alexandru Copilau, Cristian Lupu, Anton Manolescu</td>
<td>323</td>
</tr>
<tr>
<td>SIMULATIONS WITH UNIFIED MOSFET MODEL FOR DISTORTIONS ANALYSIS,</td>
<td>Florin Babarada, Adrian Rusu, Tudor Niculiu, Cristian Ravariu, Dragos Vizireanu, Carmen Moldovan, Elena Manea, Camelia Dunare, Madalina Mlak</td>
<td>333</td>
</tr>
<tr>
<td>FAILURE PROCESS SIMULATION OF A COMPONENT-BASED SOFTWARE,</td>
<td>Florentina Suter</td>
<td>339</td>
</tr>
<tr>
<td>EVALUATION OF GA ESTIMATION PARAMETERS IN WIDEBAND PIEZOELECTRIC TRANSUDCERS</td>
<td>Abelardo Ruiz Toledo, David K. Anthony, Antonio Ramos Fernández</td>
<td>342</td>
</tr>
<tr>
<td>A NEURAL MAXIMUM SELECTOR: EXPLICIT PARAMETER SET-UP FOR TIME PERFORMANCE,</td>
<td>Ruxandra L. Costea, Corneliu A. Marinov</td>
<td>348</td>
</tr>
<tr>
<td>OPTIMIZING HINTERLAND TERMINAL OPERATION USING SIMULATION AND NEURAL NETWORKS,</td>
<td>Manfred Gronalt, Thouraya Benna, Martin Posset</td>
<td>353</td>
</tr>
<tr>
<td>QUADRATIC COMPUTATIONAL CIRCUITS FOR VLSI DESIGNS,</td>
<td>Cosmin Popa</td>
<td>358</td>
</tr>
</tbody>
</table>

Discrete and Combined Simulation

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRACTICAL STABILITY OF POSITIVE FRACTIONAL DISCRETE-TIME LINEAR SYSTEMS</td>
<td>Tadeusz Kaczorek</td>
<td>362</td>
</tr>
<tr>
<td>ENTITIES WITH COMBINED DISCRETE-CONTINUOUS ATTRIBUTES IN DISCRETE-EVENT-DRIVEN SYSTEMS</td>
<td>Kristina Dammasch, Graham Horton</td>
<td>368</td>
</tr>
<tr>
<td>SIMULATION MODEL OF A POLYMERIZATION PLANT</td>
<td>Dejan Gradisar, Vladimir Jovan, Sebastjan Zorzut</td>
<td>374</td>
</tr>
<tr>
<td>TIMED PETRI NET SIMULATION AND RELATED SCHEDULING METHODS: A BRIEF COMPARISON</td>
<td>Gasper Music</td>
<td>380</td>
</tr>
<tr>
<td>ARTIFICIAL NEURAL NETWORK-BASED CLASSIFICATION OF VECTOR SETS FOR SURFACE INSPECTION</td>
<td>Michael Gyimesi, Felix Breitenecker, Wolfgang Heidl, Christian Eitzinger</td>
<td>386</td>
</tr>
<tr>
<td>DISTRIBUTED DISCRETE SIMULATION ON THE WEB</td>
<td>Aman Atri, Felix Breitenecker, Nicole Nagele, Shabnam Tauböck</td>
<td>392</td>
</tr>
<tr>
<td>STRUCTURAL FEATURES IN SIMULATION SYSTEMS - EVOLUTION AND COMPARISON</td>
<td>Felix Breitenecker, Nikolas Popper, Günther Zauner</td>
<td>398</td>
</tr>
<tr>
<td>INTERNAL/EXTERNAL EVENT - STRUCTURE IN SIMULATORS - CASE STUDIES WITH ARGESIM COMPARISONS</td>
<td>Felix Breitenecker, Siegried Wassertheurer, Stefan Emrich, Nicolas Popper, Günther Zauner</td>
<td>408</td>
</tr>
<tr>
<td>A PETRI NET APPROACH TO ARGESIM COMPARISON C2 ‘FLEXIBLE ASSEMBLY SYSTEM’ USING THE MATLAB PETRISIMM TOOLBOX</td>
<td>Thomas Löscher, Felix Breitenecker</td>
<td>419</td>
</tr>
<tr>
<td>NEW APPROACHES OF COMBINED MODELLING AND SIMULATION IN HEALTH CARE SYSTEMS AND MANAGEMENT</td>
<td>Nikolas Popper, Michael Gyimesi, Günther Zauner, Felix Breitenecker</td>
<td>425</td>
</tr>
</tbody>
</table>
Petri Nets and DEVS Modeling & Simulation

A PETRI NET MODEL FOR AN ACTIVE DATABASE SIMULATOR, Joselito Medina-Marín, Xiaou Li, José Ramón Corona-Armenta, Marco Antonio Montúfar-Benítez, Oscar Montaño-Arango, Aurora Pérez-Rojas 431

DEGOMS, A SYSTEMATIC WAY FOR TASK MODELLING AND SIMULATION, Ali Mroue, Jean Caussanel 438

NET CENTRIC MODELLING AND SIMULATION USING ACTORDEVS, Franco Cicirelli, Angelo Furfaro, Andrea Giordano, Libero Nigro 447

TEMPORAL ANALYSIS OF COMPLEX TIME-DEPENDENT SYSTEMS: AN APPROACH BASED ON TIME PETRI NETS, ACTORDEVS AND HLA, Franco Cicirelli, Angelo Furfaro, Libero Nigro, Francesco Pupo 455

Modeling & Simulation in Business Management

HYBRID APPROACH FOR MODELING AND CONTROL WAREHOUSE SYSTEMS, Filippo Sarri, Rinaldo Rinaldi 463

IMPROVING A PROCESS IN A BRAZILIAN AUTOMOTIVE PLANT APPLYING PROCESS MAPPING, DESIGN OF EXPERIMENTS AND DISCRETE EVENTS SIMULATION, José Arnaldo Monteverchi, Alexandre de Pinho, Fabiano Leal, Fernando Marins, Rafael Costa 472

AN APPLICATION FOR WEB-BASED MODELING AND SIMULATION, Yurena García-Hevia, Ivan Castilla, Rosa María Aguilar, Roberto Muñoz 481

TRANSIENT SIMULATION OF BALANCED BIDDING IN KEYWORD AUCTIONS, Maurizio Naldi, Giuseppe D'Acquisto 487

A MARKOV PROCESS FOR REFLECTIVE PETRI NETS, Lorenzo Capra 493

ANALYSIS, MODELING AND SIMULATION OF THE INCORPORATION OF EGOVERNMENT IN ADMINISTRATIVE PROCESSES, Pedro Baquero, Yurena García-Hevia, Rosa María Aguilar 499

SIMULATION OF TRUST IN CLIENT-WEALTH MANAGEMENT ADVISOR RELATIONSHIPS, Terry Bossomaier, Russell Standish 506

ENABLING ADVANCED SIMULATION SCENARIOS WITH NEW SOFTWARE ENGINEERING TECHNIQUES, Judicael Ribault, Olivier Dalle 515

Agent Directed Simulation

METAMODELLING FOR ANALYZING SCENARIOS OF URBAN CRISIS AND AREA STABILIZATION BY APPLYING INTELLIGENT AGENTS, Agostino Bruzzone, Achille Scavotti, Marina Massei, Alberto Tremori 521

SUPPLY CHAIN VULNERABILITY AND RESILIENCE: A STATE OF THE ART OVERVIEW, Francesco Longo, Tuncer Ören 527

INCORPORATING “BIG FIVE” PERSONALITY FACTORS INTO CROWD SIMULATION, Sivakumar Joganathan, Peter Kincaid, Thomas Clarke 534

STUDY OF BIOLOGICALLY-INSPIRED NETWORK SYSTEMS: MAPPING COLONIES TO LARGE-
SCALE NETWORKS, Ahmet Zengin, Hessam Sarjoughian, Hüseyin Ekiz

EMERGENCE, ANTICIPATION AND MULTISIMULATION: BASES FOR CONFLICT SIMULATION, Tuncer Ören, Francesco Longo

Simulation based Optimization

PERFORMANCE EVALUATION OF QUANTUM CASCADED LASERS THROUGH VISSIM MODELING, Mohamed Bakry El Mashade, Imbaby Ismail Mahmoud, Mohamed Said El Tokhy

SELECTING THE OPTIMUM BY SEARCHING AND RANKING PROCEDURES IN SIMULATION-BASED OPTIMIZATION, Pasquale Legato, Rina Mary Mazza

MODELLING, SIMULATION AND OPTIMIZATION OF LOGISTIC SYSTEMS, Pasquale Legato, Daniel Gullì, Roberto Trunfio

RUNWAY CAPACITY OPTIMIZATION: AIRCRAFT SEQUENCING IN MIXED MODE OPERATION, Olatunde Temitope Baruwa, Miquel Angel Piera

Modeling & Simulation Methodologies, Techniques and Applications

GREAT BUT FLAWED EXPECTATIONS: ON THE IMPORTANCE OF PRESUMPTIONS AND ASTONISHMENT IN MODEL AND SIMULATION BASED RISK MANAGEMENT, Marko Hofmann, Thomas Krieger

MODELLING AND SIMULATION OF AUTONOMOUS LOGISTIC PROCESSES, Bernd Scholz-Reiter, Torsten Hildebrandt, Jan Kolditz

AN ANALYTICAL APPROACH FOR OPTIMISING THE NUMBER OF REPAIRMEN FOR LARGE SCALE, HOMOGENEOUS, MULTI-SERVER SYSTEMS, Orhan Gemikonakli, Hadi Sanei, Enver Ever, Altan Kocyiğit

A SOLUTION FOR IMPROVED MODELLING EFFICIENCY OF A MULTI-DISCIPLINARY MARINE POWER SYSTEM, Jeroen Schuddebeurs, Patrick Norman, Ian Eiders, Stuart Galloway, Campbell Booth, Graeme Burt, Judith Apsley

AIRPORT TERMINALS' PERFORMANCE ANALYSIS: A CASE STUDY, Antonio Cimino, Duilio Curcio, Giovanni Mirabelli, Enrico Papoff

ON THE USE OF OPTICAL FLOW TO TEST CROWD SIMULATIONS, David Kaup, Thomas Clarke, Linda Malone, Rex Oleson, Mario Rosa

PROXEL-BASED SIMULATION OF QUEUING SYSTEMS WITH ATTRIBUTED CUSTOMERS, Claudia Krull, Wenjing Xu, Graham Horton

SIMULATION AND OPTIMIZATION OF VEHICULAR FLOWS IN A HARBOUR, Raffaella Frattaruolo, Rosanna Manzo, Luigi Rarità

A GRAPHICAL TOOL FOR THE SIMULATION OF SUPPLY CHAINS USING FLUID DYNAMIC MODELS, Alfredo Cutolo, Carmine De Nicola, Rosanna Manzo

HEURISTIC PROCEDURES FOR PROBABILISTIC PROJECT SCHEDULING, Patrizia Beraldi, Maria Elena Bruni, Francesca Guerrero, Erika Pinto
HIGHWAY TRAFFIC MODEL BASED ON CELLULAR AUTOMATA: PRELIMINARY SIMULATION RESULTS WITH CONGESTION PRICING CONSIDERATIONS, Salvatore Di Gregorio, Renato Umeton, Andrea Bicocchi, Andrea Evangelisti, Miguel Gonzalez 665

A FORMAL APPROACH FOR OPTIMIZED SYSTEM ENGINEERING, Yann Pollet, Olfa Chourabi 675

HYDROLOGICAL RISK ANALYSIS OF THE SOLIMÕES RIVER USING EXTREME VALUE THEORY, Alexandra R. M. Almeida, Beatriz V. M. Mendes, Maria Célia S. Lopes, Gerson G. Cunha 683

EVENT SCHEDULING MADE EASY: BASIC SIMULATION FACILITY REVISITED, Luis Dias, Guilherme Pereira, José Oliveira 688

Advance in Information and e-Integration in Healthcare Systems and Management

HADA: TOWARDS A GENERIC TOOL FOR DATA ANALYSIS FOR HOSPITAL SIMULATIONS, Iván Castilla Rodríguez, Murat Gunal, Michael Pidd, Rosa Mª Aguilar Chinea 693

A MODEL TO DESCRIBE THE HOSPITAL DRUG DISTRIBUTION SYSTEM VIA FIRST ORDER HYBRID PETRI NETS, Mariagrazia Dotoli, Maria Pia Fanti, Agostino Marcello Mangini, Walter Ukovich 700

COMPLEX ORGANIZATION MODELING AND SIMULATION APPROACH FOR OPERATIONAL SCENARIOS STUDY: APPLICATION TO HEALTH CARE ORGANIZATION, Ahmed Sami REBAI, Vincent CHAPURLAT, Daniel DIEP 706

MOBILE GAME-BASED LEARNING SIMULATIONS FOR CRISIS MANAGEMENT TRAINING. A CASE STUDY “MOGABAL FOR E-HEALTH”, Stefano Mininel, Federica Vatta, Sara Gaion, Walter Ukovich 712

A HIGH PERFORMANCE COMPUTING-BASED APPROACH FOR THE REALISTIC MODELING AND SIMULATION OF EEG ACTIVITY, Federica Vatta, Stefano Mininel, Paolo Bruno, Fabio Meneghini, Francesco Di Salle 718

Modeling & Simulation in Industrial Engineering

MODELING OF MARINE SYSTEMS AND PROCESSES AIMED AT OPTIMAL SHIP HANDLING, Enco Tireli, Josko Dvornik, Srdan Dvornik 724

ASSESSING POOLING POLICIES IN MULTI-RETAILER INVENTORY SYSTEM WITH LOST SALES, Mounira Tilli, Mohamed Moalla, Jean Pierre Campagne, Zied Bahroun 730

MODELLING AND CONTROLLER PROTOTYPING FOR UNMANNED VERTICAL TAKE OFF AND LANDING (UVTOL) VEHICLES, Alexander Martinez, Pedro Gutierrez, Claudio Rossi, Antonio Barrientos, Jaime Del Cerro, Rodrigo San Martin 738

ON THE INTEGRATED PRODUCTION AND PREVENTIVE MAINTENANCE PROBLEM IN MANUFACTURING SYSTEMS WITH BACKORDER, Jean-Pierre Kenne, Ali Gharbi, Mounir Beit 744

INVENTORY MANAGEMENT COSTS ANALYSIS UNDER DIFFERENT CONTROL POLICIES, Antonio Cimino, Dulilio Curcio, Giovanni Mirabelli, Enrico Papoff 754
DEMAND FORECASTING AND LOT SIZING HEURISTICS TO GENERATE COST EFFECTIVE PRODUCTION PLANS: A SIMULATION STUDY ON A COMPANY IN THE WOOD FLOORS SECTOR, Lorenzo Tiacci, Stefano Saetta

STUDY OF VEHICULAR INTERACTION IN HETEROGENEOUS TRAFFIC FLOW ON INTERCITY HIGHWAYS USING MICROSCOPIC SIMULATION, Venkatachalam Thamizh Arasan, Shriram Arkatkar

GEOMETRIC AND MULTIBODY MODELING OF RIDER-MOTORCYCLE SYSTEM, Michele Calì, Massimo Oliveri, Gaetano Sequenzia, Francesco Trovato

MODELING, SIMULATION AND ERGONOMIC STANDARDS AS SUPPORT TOOLS FOR A WORKSTATION DESIGN IN MANUFACTURING SYSTEM, Antonio Cimino, Giovanni Mirabelli

OPTIMIZING TIME PERFORMANCE IN REACHABILITY TREE-BASED SIMULATION, Miguel Mujica, Miquel Angel Piera, Mercedes Narciso

FIRST PRINCIPLES MODELING OF THE LARGE HYDRON COLLIDER’S (LHC) SUPER FLUID HELIUM CRYOGENIC CIRCUIT, Rafal Noga, Cesar de Prada

SOLVING THE PALLET LOADING PROBLEM USING A COLOURED PETRI NET APPROACH, Miquel Angel Piera, Catya Zuñiga

SHOP ORDERS SCHEDULING: DISPATCHING RULES AND GENETIC ALGORITHMS BASED APPROACHES, Antonio Cimino, Francesco Longo, Giovanni Mirabelli, Enrico Papoff

SENSITIVITY ANALYSIS AND OPTIMIZATION OF DIFFERENT INVENTORY CONTROL POLICIES ALONG THE SUPPLY CHAIN, Duilio Curcio, Francesco Longo

Effective Design by Modeling & Simulation

AN APPROACH FOR FAULT DETECTION IN DEVS MODELS, Diego M. Llarrull, Norbert Giambiasi

ANALYSIS OF SHIPBOARD SURVIVABLE FIRE MAIN SYSTEMS, Albert Ortiz, Don Dalessandro, Dong Qing, Li Bai, Saroj Biswas

MODELING AND EVALUATION OF DISTINCT ALTERNATIVE DESIGNS FOR WIDE-BAND AIR-COUPLED PIEZOELECTRIC TRANSDUCERS, Abelardo Ruiz Toledo, Tomas E. Gómez Álvarez-Arenas

WORKPLACES EFFECTIVE ERGONOMIC DESIGN: A LITERATURE REVIEW, Antonio Cimino, Duilio Curcio, Francesco Longo, Giovanni Mirabelli

Author’s index