INVITED SPEAKERS

Keynote Speakers

Cloud Computing - State-of-the-Art and Future Research Trends
Eleni Karatza

The Role of Domain Specific Languages in Modeling and Simulation
Adelinde M. Uhrmacher

Parallel Discrete Event Simulation - Past, Present and Future
Richard Fujimoto

Agent-based Models for Exploring Social Complexity, with an Application of Network Analysis to Agents
Pietro Terna

INVITED PAPERS

Awareness-based Couplings of Intelligent Agents and Other Advanced Coupling Concepts for M&S
Tuncer Oren and Levent Yilmaz

An Efficient and Secure Mutual Authentication Mechanism in NEMO-based PMIPv6 Networks: A Methodology and Simulation Analysis
Sirine Ben Ameur, Salima Smaoui, Faouzi Zarai, Mohammad S. Obaidat and Balqies Sadoun

SIMULATION TOOLS AND PLATFORMS

Full Papers

Experimental/FEM Optimization of Medium Voltage Rubber Insulated Electric Cables Vulcanized with Steam Water - Numerical Simulations and Inverse Analyses
Gabriele Milani and Federico Milani

Simulation based Evaluation of a Code Diversification Strategy
Brady Tello, Michael Winterrose, George Baah and Michael Zhivich

Discrete Event Modeling and Simulation for IoT Efficient Design Combining WComp and DEVSimPy Framework
S. Sehili, L. Capocchi, J. F. Santucci, S. Lavirotte and J. Y. Tigli

Short Papers

Integrated Operations Planning for a Multicomponent Machine Subjected to Stochastic Environment
Jean-Baptiste Ringard, Bhushan S. Purohit and Bhupesh Kumar Lad

Experimental/FEM Optimization of Medium Voltage Rubber Insulated Electric Cables Vulcanized with Steam Water - Differential Scanning Calorimetry (DSC) and Rheometer Experimental Results
Gabriele Milani and Federico Milani

Statistical Model Checking of GSPN Models
Franco Cicirelli, Christian Nigro and Libero Nigro
SIM - A Flexible, Scalable and Expandable Simulation Platform Applying to Lunar Orbit Rendezvous Mission
Sun Fuyu, Wang Hua, Guo Shuai and Li Haiyang

Fault Detection by Backwards Analysis in Coloured Workflow Nets
Vasili Ganishev, Olga Fengler and Wolfgang Fengler

Computationally Efficient Multiphase Heuristics for Simulation-based Optimization
Christoph Bodenstein, Thomas Dietrich and Armin Zimmermann

Challenges when Creating Variable-structure Models
Alexandra Mehlhase, Daniel Gomez Esperon and Thomas Karbe

Optimizing Steel Melt Shop Operations using an Iterative Hierarchical Decomposition based Discrete Event Simulation Model
Atanu Mukherjee and Arnab Adak

Evolving Close-to-Real Digital Microstructures in Polycrystalline Materials - A Monte Carlo Simulation Approach
K. R. Phaneesh, Anirudh Bhat, G. Mukherjee and K. T. Kashyap

Implementing an Agent-based Model with a Spatial Visual Display in Discrete-event Simulation Software
Andrew Greasley and Chris Owen

Distributed Discrete Event Simulation Architecture with Connectors
İsmet Özgür Çolpankan, Ahmet Kara and Halit Oguztüzün

Using Multiple Runs in the Simulation of Stochastic Systems for Estimating Equilibrium Expectations
Winfried Grassmann

A Multistage Approach for Buffer Size Decision in Serial Production Line
Jaber Abu Qudeiri, Muneer Khan Mohammed, Syed Hammad Mian and Fayiz Abu Khadra

Adaptive Solution of the Wave Equation
Václav Valenta, Gabriela Necasová, Jirí Kunovsky, Václav Šátek and Filip Kocina

Numerical Integration of Multiple Integrals using Taylor Polynomial
Jan Chaloupka, Jirí Kunovsky, Václav Šátek, Petr Veigend and Alžbeta Martinkovičová

Densifying the Sparse Cloud SimSaaS: The need of a Synergy among Agent-directed Simulation, SimSaaS and HLA
Tiago Azevedo, Rosaldo J. F. Rossetti and Jorge G. Barbosa

Parametric Study of Liquid Flow in Five- and Six-stage Centrifugal Pumps
Lahbib Kerbouchi and Guiyh Dituba Ngoma

Simulations and Optimization of Manufacturing of Automotive Parts
Lukas Rauch, Monika Pernach, Jan Kusiak and Maciej Pietrzyk

Global Optimization with Gaussian Regression Under the Finite Number of Evaluation
Naoya Takimoto and Hiroshi Morita

Development of Computerized Severe Accident Management Guidelines of AP1000 Nuclear Power Plant
Gang Chen, Shuang Xiao, Haidan Wang, Yiqiang Xiong and Yixue Chen

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Simulation of Stochastic Activity Networks
Bajis M. Dodin and Abdelghani A. Elimam

Modeling and Simulation of Logic Gates using DEVS
Maamar Hamri and Nesrine Driouche

Simulation and Analysis of the Signal Transmission in the Optical Transmission Medium
Rastislav Roká and Filip Čertik

Application of 3D Navier-Stokes Equations and Mathematical Optimization Techniques to Improve the Efficiency of Seven-Stage Axial Compressor
Oleg V. Baturin, Grigorii M. Popov, Evgeny S. Goryachkin and Yilja D. Novikova

FORMAL METHODS

FULL PAPERS

Downscaling Daily Temperature with Evolutionary Artificial Neural Networks
Min Shi

Bayesian Sample Size Optimization Method for Integrated Test Design of Missile Hit Accuracy
Guangling Dong, Chi He, Zhenguo Dai, Yanchang Huang and Xiaochu Hang

SHORT PAPERS

Synchronization of the Complex Dynamical Networks with a Gui Chaotic Strange Attractor
Zhanji Gui and Lan Kang

Reduction and Push Technology of Cable Harness Information for Complex Mechatronic Products based on Variable Precision Rough Sets
Falin Wang, Wenhe Liao, Yu Guo and Xiaofei Wang

Extreme Learning Machines with Simple Cascades
Tom Gedeon and Anthony Oakden

Ontology based Modelling of Operator Training Simulator Scenarios from Human Error Reports
Flávio Torres Filho, Yuska Paola Costa Aguiar and Maria de Fátima Queiroz Vieira

Optimization of Parallel-DEVS Simulations with Partitioning Techniques
Christopher Herbez, Eric Ramat and Gauthier Quesnel

A Review on Discrete-event Simulation and System Dynamics Studies for Healthcare Problems
Eylül Damla Gönül-Sezer and Zeynep Ocak

COMPLEX SYSTEMS MODELING AND SIMULATION

FULL PAPERS

High Precision Temperature Control of Normal-conducting RF GUN for a High Duty Cycle Free-Electron Laser
Kai Kruppa, Sven Pfeiffer, Gerwald Lichtenberg, Frank Brinker, Winfried Decking, Klaus Flöttmann, Olaf Krebs, Holger Schlarb and Siegfried Schreiber

Mathematical Modeling for Ship Evacuation from Tsunami Attack
Ei-ichi Kobayashi, Shota Yoneda, Masako Murayama, Yuuki Taniguchi, Hirotada Hashimoto and Shunichir Koshimura
SHORT PAPERS

Modeling and Simulation of Coalition Formation
V. Mashkov, J. Barilla, P. Simr and J. Bicanek

Numerical Analysis on Water Hammer Characteristics of Rocket Propellant Filling Pipeline
Xiang Youhuan, Zhang Ping, Zhang Hui and Bai Fengtian

Multi-granularity Modeling of Variable Structured Rocket based on Declarative Language
Wanneng Zhou, Hua Wang, Fuyu Sun and Haiyang Li

An Agent-based System for Issuing Stock Trading Signals
Zheyuan Su and Mirsad Hadzikadic

Artificial Financial Market - Risk Analysis Approach
Badida Hedjazi, Samir Aknine and Karima Benatchba

LLUNPIY Preliminary Extension for Simulating Primary Lahars - Application to the 1877 Cataclysmic Event of Cotopaxi Volcano
Guillermo Machado, Valeria Lupiano, Gino Mirocle Crisci and Salvatore Di Gregorio

Tsunami and Storm Surge Simulation Using Low Power Architectures - Concept and Evaluation
Dominik Schoenwetter, Alexander Ditter, Bruno Kleinert, Arne Hendricks, Vadym Aizinger, Harald Koestler and Dietmar Fey

Angular Arrangement Optimization of the Support Racks of Gas Turbine Engine to Reduce the Circumferential Unevenness of Gas Flow
Grigorii M. Popov, Daria Kolmakova and Aleksandr O. Shklovets

APPLICATION DOMAINS

FULL PAPERS

Conceptual Wiki Page Simulation - A Discrete Space Agent-based Approach
Roger W. McHaney and Jonathan Mossberg

Modeling and Simulation of MAS-based Management System for Smart Grid with Smart Homes
Chen Miao, Tai Nengling and Ji Kang

Enabling Military Coalition Command and Control with Interoperating Simulations
J. Mark Pullen

A Model-Driven Engineering Process for Agent-based Traffic Simulations
Alberto Fernández-Isabel and Rubén Fuentes-Fernández

A Multi-Objective Simulator for Optimal Power Dimensioning on Electric Railways using Cloud Computing
Jesus Carretero, Silvina Caino, Felix Garcia-Carballeira and Alberto Garcia

SHORT PAPERS

Topology Optimisation of Rotating Automation Components for Machine Tools – Methodology, Cost Effectiveness and Examples
Gerhard Kehl, Paul Jickeli, Martin Schietinger and David Blank

Agent Based Modelling Framework for Military Domain Specific Command and Control
Woo-Seop Yun and Tae-Eog Lee
Design of Firing Impulse Simulator and Analysis of Its Key Research and Development Technologies
Chi He, Guangling Dong, Hongquan Wu, Qiang Li and Kun Lu

Error Modeling and Simulation for Directional Testing of Space Block
Hongquan Wu, Guangling Dong, Chi He, Wei Ma, Jietao Xie, Ruibing Shi and Hongqiang Wei

Low Noise Design of Regenerative Blower by Combining the FANDAS-Regen Code, Optimization Technique and Phase-Shift Cancellation Concept
Chan Lee, Hyun Gwon Kil and Jun Gon Kim

Discrete Event Simulation in a BRT System - Transmilenio Case
Miguel R. Campos, Juan P. Álvarez and Ciro A. Amaya

The Impact of Household Structures on Pandemic Influenza Vaccination Priority
Hung-Jui Chang, Jen-Hsiang Chuang, Yang-Chih Fu, Tsan-Sheng Hsu, Chi-Wen Hsueh, Shu-Chen Tsai and Da-Wei Wang

Design of a Perforated Muffler for a Regenerative Blower Used in Fuel Cell Application
Hyun Gwon Kil, Kwang Yeong Kim and Chan Lee

Analysis of Hump Operation at a Railroad Classification Yard
Maria Gisela Bardosoy

Modeling Wine Preferences from Physicochemical Properties using Fuzzy Techniques
Ángela Nebot, Francisco Mugica and Antoni Escobet

Towards Improving Modeling and Simulation of Clinical Pathways: Lessons Learned and Future Insights
Mahmoud Elbattah and Owen Molloy

SPECIAL SESSION ON APPLICATIONS OF MODELING AND SIMULATION TO CLIMATIC CHANGE AND ENVIRONMENTAL SCIENCES

FULL PAPERS

Global Surface Temperature Model using Coupled Sugeno Type Fuzzy Inference Systems and Neural Network Optimization
Bernardo Bastien-Olvera and Carlos Gay-Garcia

Stabilizing Global Temperature Through a Fuzzy Control on CO2 Emissions
Carlos Gay-Garcia and Bernardo Bastien

Tackling Non-linearity in Seismic Risk Estimation using Fuzzy Methods
J. Rubén González Cárdenas, Ángela Nebot, Francisco Mugica and Helen Crowley

Term-frequency Inverse Document Frequency for the Assessment of Similarity in Central and State Climate Change Programs: An Example for Mexico
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