

# **Proceedings of the 2010 Winter Simulation Conference**

**(WSC 2010)**

**Baltimore, Maryland, USA  
5 - 8 December 2010**

**Pages 1 - 935**



**IEEE Catalog Number: CFP10WSC-PRT  
ISBN: 978-1-4244-9866-6**

# TABLE OF CONTENTS

## VENDOR TRACK I:

<b>INTRODUCTION TO SIMIO</b> .....	1
<i>C. Dennis Pegden, David T. Sturrock</i>	
<b>RESOURCE MANAGEMENT IN SAS SIMULATION STUDIO</b> .....	11
<i>Hong Chen, Emily Lada</i>	
<b>RECENT INNOVATIONS IN SIMIO</b> .....	21
<i>David T. Sturrock, C. Dennis Pegden</i>	
<b>EXTENDSIM ADVANCED TECHNOLOGY: INTEGRATED SIMULATION DATABASE</b> .....	32
<i>Bob Diamond, David Krahl, Anthony Nastasi, Peter Tag</i>	

## VENDOR TRACK II:

<b>SIMULATION BASED FAB SCHEDULER: SEEPLAN</b> .....	40
<i>Keyhoon Ko, Seock K. Yoo, Byung H. Kim, Bum C. Park, Eui S. Park</i>	

## INTRODUCTORY TUTORIALS:

<b>INTRODUCTION TO SIMULATION INPUT MODELING</b> .....	49
<i>Bahar Biller, Canan Gunes</i>	
<b>PRACTICAL ADVICE FOR ORGANIZATIONS NEW TO SIMULATION</b> .....	59
<i>Carley Jurishica</i>	
<b>STATISTICAL ANALYSIS OF SIMULATION OUTPUT DATA: THE PRACTICAL STATE OF THE ART</b> .....	65
<i>Averill M. Law</i>	
<b>SIMULATION EXPERIMENT DESIGN</b> .....	75
<i>Russell R. Barton</i>	
<b>TIPS FOR SUCCESSFUL PRACTICE OF SIMULATION</b> .....	87
<i>David T. Sturrock</i>	
<b>MONTE CARLO METHODS IN FINANCE: AN INTRODUCTORY TUTORIAL</b> .....	95
<i>Sandeep Juneja</i>	
<b>AN INTRODUCTION TO SYSTEMS MODELING AND SIMULATION WITH COLORED PETRI NETS</b> .....	104
<i>Vijay Geholt, Carmen Nigro</i>	
<b>SIMULATING SMALL UNIT MILITARY OPERATIONS WITH AGENT-BASED MODELS OF COMPLEX ADAPTIVE SYSTEMS</b> .....	119
<i>Victor Middleton</i>	
<b>AGENT-BASED SIMULATION TUTORIAL - SIMULATION OF EMERGENT BEHAVIOR AND DIFFERENCES BETWEEN AGENT-BASED SIMULATION AND DISCRETE-EVENT SIMULATION</b> .....	135
<i>Wai Kin Victor Chan, Young-Jun Son, Charles M. Macal</i>	

## ADVANCED TUTORIALS:

<b>INSIDE DISCRETE-EVENT SIMULATION SOFTWARE: HOW IT WORKS AND WHY IT MATTERS</b> .....	151
<i>Thomas J. Schriber, Daniel T. Brunner</i>	
<b>VERIFICATION AND VALIDATION OF SIMULATION MODELS</b> .....	166
<i>Robert G. Sargent</i>	
<b>THE INITIAL TRANSIENT IN STEADY-STATE POINT ESTIMATION: CONTEXTS, A BIBLIOGRAPHY, THE MSE CRITERION, AND THE MSER STATISTIC</b> .....	184
<i>Raghu Pasupathy, Bruce Schmeiser</i>	

<b>LANDSCAPE FOR ANALYSING THE BUSINESS EFFECTS OF UTILIZING DESIGN SUPPORT SIMULATIONS</b> .....	198
<i>Johanna Mela, Ricardo Velez Osuna, Asko Riitahuhta, Timo Lehtonen</i>	
<b>ADVANCED TUTORIAL: OVERVIEW OF SIMULATION WORLD VIEWS</b> .....	210
<i>C. Dennis Pegden</i>	
<b>IMPROVING SIMULATION THROUGH ADVANCED COMPUTING TECHNIQUES: GRID COMPUTING AND SIMULATION INTEROPERABILITY</b> .....	216
<i>Simon J. E. Taylor, Navonil Mustafee, Shane Kite, Chris Wood, Stephen J. Turner</i>	
<b>AN OPEN-SOURCE POPULATION INDIFFERENCE ZONE-BASED ALGORITHM FOR SIMULATION OPTIMIZATION</b> .....	231
<i>Theodore T. Allen, David N. Vuckovich</i>	
<b>PROJECT MANAGEMENT SIMULATION WITH PTB PROJECT TEAM BUILDER</b> .....	242
<i>Avraham Shrub</i>	
<b>A TUTORIAL ON CONCEPTS AND MEASURES OF MANUFACTURING PROCESSES</b> .....	254
<i>Roberto F. Lu, Shuguang Song</i>	

### **SIMULATION EDUCATION:**

<b>TOWARD TEACHING AGENT-BASED SIMULATION</b> .....	268
<i>Charles M. Macal, Michael J. North</i>	
<b>A SIMPLE AGENT-BASED SOCIAL IMPACT THEORY MODEL OF STUDENT STEM SELECTION</b> .....	278
<i>Theodore T. Allen, Nixon Davis</i>	
<b>PANEL DISCUSSION: EDUCATION ON CONCEPTUAL MODELING FOR SIMULATION - CHALLENGING THE ART</b> .....	290
<i>Durk-Jouke van der Zee, Kathy Kotiadis, Antueta A. Tako, Mike Pidd, Osman Balci, Andreas Tolk, Mark Elder</i>	
<b>PROCESS SIMULATION ENVIRONMENT FOR CASE STUDIES</b> .....	305
<i>Janis Grabis, Charu Chandra</i>	
<b>THE BLOOD SUPPLY GAME</b> .....	315
<i>Navonil Mustafee, Korina Katsaliaki</i>	
<b>PHD TRAINING IN SIMULATION: NATCOR</b> .....	327
<i>Michael Pidd, Stewart Robinson, Ruth Davies, Kathryn Hoad, Russell Cheng</i>	
<b>DISCRETE EVENT SIMULATION CLASS FOR ENGINEERING GRADUATE STUDENTS</b> .....	332
<i>Reid Kress, Alma Cemerlic, Jessica Kress, Jacob Varghese</i>	
<b>PROBLEM SOLVING, MODEL SOLVING, OR WHAT?</b> .....	341
<i>Ray J Paul, Jasna Kuljis</i>	

### **MODELING METHODOLOGY:**

<b>USING A FORMAL APPROACH TO SIMULATION INTEROPERABILITY TO SPECIFY LANGUAGES FOR AMBASSADOR AGENTS</b> .....	347
<i>Andreas Tolk, Saikou Y. Diallo</i>	
<b>TO AGENT-BASED SIMULATION FROM SYSTEM DYNAMICS</b> .....	359
<i>Charles M. Macal</i>	
<b>SIMULATION METHOD FOR SOLVING HYBRID INFLUENCE DIAGRAMS IN DECISION MAKING</b> .....	371
<i>Xi Chen, Enlu Zhou</i>	
<b>ON SIMULATING THE EFFECT ON THE ENERGY EFFICIENCY OF SMART GRID TECHNOLOGIES</b> .....	381
<i>Vincent Bakker, Albert Molderink, Maurice G.C. Bosman, Johann L. Hurink, Gerard J.M. Smit</i>	
<b>SUMMARY FUNCTION ELASTICITY ANALYSIS FOR AN INDIVIDUAL-BASED SYSTEM DYNAMICS MODEL</b> .....	393
<i>Qian Zhang, Nathaniel Osgood</i>	
<b>IMPROVING MODEL UNDERSTANDING USING STATISTICAL SCREENING</b> .....	405
<i>Timothy R.B. Taylor, David N. Ford, Andrew Ford</i>	
<b>COMPARING VALIDATION RESULTS FOR TWO DIME/PMESII MODELS: UNDERSTANDING COVERAGE PROFILES</b> .....	416
<i>Dean S. Hartley</i>	
<b>VALIDATING AGENT BASED SOCIAL SYSTEMS MODELS</b> .....	429
<i>Gnana K. Bharathy, Barry Silverman</i>	

<b>MISSION-DRIVEN NEEDS: UNDERSTANDING THE MILITARY RELEVANCE OF SOCIO-CULTURAL CAPABILITIES .....</b>	<b>442</b>
<i>P. M. Picucci, Susan K. Numrich</i>	
<b>OUT-OF-ORDER EXECUTION AND STRUCTURAL EQUIVALENCE OF SIMULATION MODELS.....</b>	<b>454</b>
<i>Tobin A. Bergen-Hill, Ernest H. Page</i>	
<b>A CONTEXT-BASED MULTI-PERSPECTIVE MODELING AND SIMULATION FRAMEWORK.....</b>	<b>467</b>
<i>Cagri Tekinay, Mamadou Seck, Michele Fumarola, Alexander Verbraeck</i>	
<b>MODELING AND SIMULATION FOR USER ASSISTANCE IN SMART ENVIRONMENTS .....</b>	<b>478</b>
<i>Alexander Steiniger, Adelinde M. Uhrmacher</i>	
<b>A PARTICIPATIVE MODELLING FRAMEWORK FOR DEVELOPING CONCEPTUAL MODELS IN HEALTHCARE SIMULATION STUDIES.....</b>	<b>488</b>
<i>Antuela A. Tako, Christos Vasilakis, Kathy Kotiadis</i>	
<b>PROPOSED VISUAL WIKI SYSTEM FOR GATHERING KNOWLEDGE ABOUT DISCRETE EVENT SYSTEMS.....</b>	<b>501</b>
<i>Peter Dungan, Cathal Heavey</i>	
<b>CONCEPTUAL MODELLING FOR SIMULATION-BASED SERIOUS GAMING .....</b>	<b>510</b>
<i>Durk-Jouke van der Zee, Bart Holkenborg</i>	
<b>USING WORKFLOWS IN M&amp;S SOFTWARE.....</b>	<b>523</b>
<i>Stefan Rybacki, Jan Himmelspach, Enrico Seib, Adelinde M. Uhrmacher</i>	
<b>APPLYING A MODEL DRIVEN APPROACH TO COMPONENT BASED MODELING AND SIMULATION.....</b>	<b>534</b>
<i>Deniz Cetinkaya, Alexander Verbraeck, Mamadou D. Seck</i>	
<b>A SPECTRUM OF TRAFFIC FLOW MODELING AT MULTIPLE SCALES.....</b>	<b>542</b>
<i>Daiheng Ni</i>	
<b>A BRIEF HISTORY OF SIMULATION REVISITED.....</b>	<b>555</b>
<i>David Goldsman, Richard E. Nance, James R. Wilson</i>	
<b>DIVIDE AND CONQUER: A FOUR-FOLD DOCKING EXPERIENCE OF AGENT-BASED MODELS.....</b>	<b>563</b>
<i>S. M. Niaz Arifin, Gregory J. Davis, Steve Kurtz, James E. Gentile, Ying Zhou, Gregory R. Madey</i>	
<b>INTERFACING MULTI-AGENT MODELS TO DISTRIBUTED SIMULATION PLATFORMS: THE CASE OF PDES-MAS .....</b>	<b>575</b>
<i>B.G.W. Craenen, G.K. Theodoropoulos</i>	
<b>SIMULATING PLAUSIBLE MECHANISMS FOR CHANGING HEPATIC XENOBIOTIC CLEARANCE PATTERNS.....</b>	<b>583</b>
<i>Shahab Sheikh-Bahaei, C. Anthony Hunt</i>	
<b>SPATIAL MODELING IN CELL BIOLOGY AT MULTIPLE LEVELS .....</b>	<b>596</b>
<i>Arne T. Bittig, Adelinde M. Uhrmacher</i>	
<b>VERIFICATION AND TESTING OF BIOLOGICAL MODELS.....</b>	<b>608</b>
<i>Allan Clark, Stephen Gilmore, Jane Hillston, Peter Kemper</i>	
<b>MULTISTATE MODELING AND SIMULATION FOR REGULATORY NETWORKS.....</b>	<b>619</b>
<i>Zhen Liu, Clifford A. Shaffer, Umme Juka Mobassera, Layne T. Watson, Yang Cao</i>	
<b>ONTOLOGY FOR MODELING AND SIMULATION .....</b>	<b>631</b>
<i>Charles Turnitsa, Andreas Tolk</i>	
<b>TOWARDS AN ONTOLOGICAL FOUNDATION OF DISCRETE EVENT SIMULATION .....</b>	<b>640</b>
<i>Giancarlo Guizzardi, Gerd Wagner</i>	
<b>GRID SERVICES FOR COMMERCIAL SIMULATION PACKAGES .....</b>	<b>653</b>
<i>Navonil Mustafee, Simon J. E. Taylor</i>	
<b>ON DECIDING BETWEEN CONSERVATIVE AND OPTIMISTIC APPROACHES ON MASSIVELY PARALLEL PLATFORMS .....</b>	<b>666</b>
<i>Christopher D. Carothers, Kalyan S. Perumalla</i>	
<b>MODEL-DRIVEN NETWORK EMULATION WITH VIRTUAL TIME MACHINE.....</b>	<b>676</b>
<i>Jason Liu, Raju Rangaswami, Ming Zhao</i>	
<b>METHODOLOGIES FOR EVALUATING GAME THEORETIC DEFENSE AGAINST DDOS ATTACKS.....</b>	<b>685</b>
<i>Tanmay Khirwadkar, Kien C. Nguyen, David M. Nicol, Tamer Basar</i>	
<b>EXPLORATORY SIMULATION OF COLLECTIVE INNOVATIVE BEHAVIOR IN GLOBAL PARTICIPATORY SCIENCE COMMUNITIES .....</b>	<b>696</b>
<i>Guangyu Zou, Levent Yilmaz</i>	
<b>NORMATIVE, CULTURAL AND COGNITIVE ASPECTS OF MODELLING POLICIES .....</b>	<b>708</b>
<i>Virginia Dignum, Frank Dignum, Sjoukje A. Osinga</i>	

<b>INVESTIGATING SOCIAL DYNAMICS AND GLOBAL CONNECTIVITY: AN AGENT-BASED MODELING APPROACH</b> .....	721
<i>John A. Sokolowski, Catherine M. Banks</i>	
<b>USING DOMAIN SPECIFIC LANGUAGE FOR MODELING AND SIMULATION: SCALATION AS A CASE STUDY</b> .....	729
<i>John A. Miller, Jun Han, Maria Hybinette</i>	
<b>IMPROVED METHODS AND MEASURES FOR COMPUTING DYNAMIC PROGRAM SLICES IN STOCHASTIC SIMULATIONS</b> .....	741
<i>Ross Gore, Paul F. Reynolds</i>	
<b>MANAGING SIMULATION WORKFLOW PATTERNS USING DYNAMIC SERVICEORIENTED COMPOSITIONS</b> .....	753
<i>Khaldoon Al-Zoubi, Gabriel Wainer</i>	
<b>SCALING VIRTUAL WORLDS: SIMULATION REQUIREMENTS AND CHALLENGES</b> .....	766
<i>Huaiyu Liu, Mic Bowman, Robert Adams, John Hurliman, Dan Lake</i>	
<b>MODEL-DRIVEN ENGINEERING OF SECOND-LIFE-STYLE SIMULATIONS</b> .....	779
<i>Gerd Wagner</i>	
<b>AN EXPERIMENTAL DESIGN AND PRELIMINARY RESULTS FOR A CULTURAL TRAINING SYSTEM SIMULATION</b> .....	787
<i>Paul A. Fishwick, Rasha Kamhawi, Amy Jo Coffey, Julie Henderson</i>	
<b>AN AFFORDANCE-BASED FORMALISM FOR MODELING HUMAN-INVOLVEMENT IN COMPLEX SYSTEMS FOR PROSPECTIVE CONTROL</b> .....	799
<i>Namhun Kim, Jaekoo Joo, Ling Rothrock, Richard A. Wysk</i>	
<b>AN INTEGRATED PEDESTRIAN BEHAVIOR MODEL BASED ON EXTENDED DECISION FIELD THEORY AND SOCIAL FORCE MODEL</b> .....	812
<i>Hui Xi, Seunggho Lee, Young-Jun Son</i>	
<b>IMAGE-SCENARIZATION: A COMPUTER-AIDED APPROACH FOR AGENT-BASED ANALYSIS AND DESIGN</b> .....	825
<i>Michel Lizotte, François Rioux</i>	
<b>HOW TO MODEL A TCP/IP NETWORK USING ONLY 20 PARAMETERS</b> .....	837
<i>Kevin L. Mills, Edward J. Schwartz, Jian Yuan</i>	
<b>INVERSE DISCRETE EVENT MODELING FOR FACILITY PARAMETER ESTIMATION</b> .....	849
<i>Reid Kress, Alma Cemerlic, Jessica Kress, Jacob Varghese</i>	
<b>SIMULATION INPUT MODELS: RELATIONSHIPS AMONG EIGHTY UNIVARIATE DISTRIBUTIONS DISPLAYED IN A MATRIX FORMAT</b> .....	857
<i>Wheyning Tina Song, Yi-Chun Chen</i>	
<b>REAL-TIME SCENE SIMULATOR FOR THERMAL INFRARED LOCALIZATION</b> .....	867
<i>Daniel Hauschildt, Jürgen Kemper, Nicolaj Kirchof, Benedict Juretko, Holger Linde</i>	
<b>SEAMLESS HIGH SPEED SIMULATION OF VHDL COMPONENTS IN THE CONTEXT OF COMPREHENSIVE COMPUTING SYSTEMS USING THE VIRTUAL MACHINE FAUMACHINE</b> .....	879
<i>Stefan Potyra, Matthias Sand, Volkmar Sieh, Dietmar Fey</i>	
<b>TOWARDS METHODOLOGICAL APPROACHES TO MEET THE CHALLENGES OF HUMAN, SOCIAL, CULTURAL, AND BEHAVIORAL (HSCB) MODELING</b> .....	891
<i>Andreas Tolk, Paul K. Davis, Wim Huiskamp, Gary L. Klein, Harald Schaub, James A. Wall</i>	

**ANALYSIS METHODOLOGY:**

<b>REINSCH'S SMOOTHING SPLINE SIMULATION METAMODELS</b> .....	904
<i>Pedro R. Santos, Isabel R. Santos</i>	
<b>SIMULATION METAMODELING IN CONTINUOUS TIME USING DYNAMIC BAYESIAN NETWORKS</b> .....	914
<i>Jirka Poropudas, Kai Virtanen</i>	
<b>COMMON RANDOM NUMBERS AND STOCHASTIC KRIGING</b> .....	926
<i>Xi Chen, Bruce Ankenman, Barry L. Nelson</i>	
<b>PARAMETRIC EXPRESSION FOR MSER WITH GEOMETRICALLY DECAYING BIAS</b> .....	936
<i>K. Preston White, William W. Franklin</i>	
<b>A REGENERATIVE BOOTSTRAP APPROACH TO ESTIMATING THE INITIAL TRANSIENT</b> .....	944
<i>Peter W. Glynn, Xiaowei Zhang</i>	

<b>PERFORMANCE COMPARISON OF MSER-5 AND N-SKART ON THE SIMULATION START-UP PROBLEM.....</b>	<b>950</b>
<i>Anup C. Mokashi, Jeremy J. Tejada, Saeideh Yousefi, Tianxiang Xu, James R. Wilson, Natalie M. Steiger, Ali Tafazzoli</i>	
<b>EMPIRICAL STOCHASTIC BRANCH-AND-BOUND FOR OPTIMIZATION VIA SIMULATION .....</b>	<b>962</b>
<i>Wendy Lu Xu, Barry L. Nelson</i>	
<b>LARGE-DEVIATION SAMPLING LAWS FOR CONSTRAINED SIMULATION OPTIMIZATION ON FINITE SETS.....</b>	<b>974</b>
<i>Susan R. Hunter, Raghu Pasupathy</i>	
<b>CONVERGENCE PROPERTIES OF DIRECT SEARCH METHODS FOR STOCHASTIC OPTIMIZATION .....</b>	<b>982</b>
<i>Sujin Kim, Dali Zhang</i>	
<b>RANDOM SEARCH IN HIGH DIMENSIONAL STOCHASTIC OPTIMIZATION .....</b>	<b>991</b>
<i>Russell Cheng</i>	
<b>BOOTSTRAPPING-BASED FIXED-WIDTH CONFIDENCE INTERVALS FOR RANKING AND SELECTION .....</b>	<b>1003</b>
<i>Jennifer M. Bekki, John W. Fowler, Barry L. Nelson</i>	
<b>A MODIFICATION OF CHENG'S METHOD: AN ALTERNATIVE FACTOR SCREENING METHOD FOR STOCHASTIC SIMULATION MODELS.....</b>	<b>1013</b>
<i>Reza Yaesoubi, Stephen D. Roberts, Robert W. Klein</i>	
<b>SIMULATING MULTIVARIATE TIME SERIES USING FLOCKING.....</b>	<b>1027</b>
<i>Lee W. Schruben, Dashi I. Singham</i>	
<b>A BAYESIAN METAMODELING APPROACH FOR STOCHASTIC SIMULATIONS.....</b>	<b>1034</b>
<i>Jun Yin, Szu Hui Ng, Kien Ming Ng</i>	
<b>THE INFLUENCE OF CORRELATION FUNCTIONS ON STOCHASTIC KRIGING METAMODELS.....</b>	<b>1046</b>
<i>Wei Xie, Barry Nelson, Jeremy Staum</i>	
<b>IDENTIFYING EFFECTIVE POLICIES IN APPROXIMATE DYNAMIC PROGRAMMING: BEYOND REGRESSION .....</b>	<b>1058</b>
<i>Matthew S. Maxwell, Shane G. Henderson, Huseyin Topaloglu</i>	
<b>OPTIMAL LEARNING OF TRANSITION PROBABILITIES IN THE TWO-AGENT NEWSVENDOR PROBLEM.....</b>	<b>1067</b>
<i>Ilya O. Ryzhov, Martin R. Valdez-Vivas, Warren B. Powell</i>	
<b>CALIBRATING SIMULATION MODELS USING THE KNOWLEDGE GRADIENT WITH CONTINUOUS PARAMETERS .....</b>	<b>1078</b>
<i>Warren R. Scott, Hugo P. Simao, Warren B. Powell</i>	
<b>TRANSIENT ANALYSIS OF GENERAL QUEUEING SYSTEMS VIA SIMULATION-BASED TRANSFER FUNCTION MODELING .....</b>	<b>1089</b>
<i>Feng Yang, Jingang Liu</i>	
<b>ROBUST ESTIMATION OF MULTIVARIATE JUMP-DIFFUSION PROCESSES VIA DYNAMIC PROGRAMMING .....</b>	<b>1102</b>
<i>Andrey Torzhkov, Puneet Sharma, Amit Chakraborty</i>	
<b>ESTIMATING THE PROBABILITY OF AN EVENT EXECUTION IN QUALITATIVE DISCRETE EVENT SIMULATION .....</b>	<b>1112</b>
<i>Yen-Ping Leow-Schwail, Ricki G. Ingalls</i>	
<b>MINIMAL SWITCHING PROCEDURE FOR CONSTRAINED RANKING AND SELECTION .....</b>	<b>1124</b>
<i>Sigrun Andradottir, Seong-Hee Kim, Christopher M. Healey</i>	
<b>EFFICIENT SIMULATION BUDGET ALLOCATION FOR SELECTING THE BEST SET OF SIMPLEST GOOD ENOUGH DESIGNS .....</b>	<b>1131</b>
<i>Shen Yan, Enlu Zhou, Chun-Hung Chen</i>	
<b>MEAN-VARIANCE BASED RANKING AND SELECTION .....</b>	<b>1139</b>
<i>F. Fred Choobineh, Demet Batur</i>	
<b>CAPTURING PARAMETER UNCERTAINTY IN SIMULATIONS WITH CORRELATED INPUTS .....</b>	<b>1146</b>
<i>Bahar Biller, Canan Gunes</i>	
<b>OPTIMAL EMPLOYEE RETENTION WHEN INFERRING UNKNOWN LEARNING CURVES.....</b>	<b>1157</b>
<i>Alessandro Arlotto, Stephen Chick, Noah Gans</i>	
<b>A FRAMEWORK FOR INPUT UNCERTAINTY ANALYSIS.....</b>	<b>1168</b>
<i>Russell R. Barton, Barry L. Nelson, Wei Xie</i>	
<b>MODEL-BASED EVOLUTIONARY OPTIMIZATION .....</b>	<b>1178</b>
<i>Yongqiang Wang, Michael C. Fu, Steven I. Marcus</i>	
<b>A NEW POPULATOIN-BASED SIMULATED ANNEALING ALGORITHM .....</b>	<b>1190</b>
<i>Enlu Zhou, Xi Chen</i>	

<b>AN APPROXIMATE ANNEALING SEARCH ALGORITHM TO GLOBAL OPTIMIZATION AND ITS CONNECTION TO STOCHASTIC APPROXIMATION .....</b>	<b>1202</b>
<i>Ping Hu, Jiaqiao Hu</i>	
<b>PERFORMANCE MEASURES FOR RANKING AND SELECTION PROCEDURES.....</b>	<b>1214</b>
<i>Rolf Waeber, Peter I. Frazier, Shane G. Henderson</i>	
<b>RESPONSE SURFACE COMPUTATION VIA SIMULATION IN THE PRESENCE OF CONVEXITY.....</b>	<b>1225</b>
<i>Eunji Lim</i>	
<b>ROOT FINDING VIA DARTS - DYNAMIC ADAPTIVE RANDOM TARGET SHOOTING.....</b>	<b>1234</b>
<i>Raghu Pasupathy, Bruce W. Schmeiser</i>	
<b>COMBINATION OF CONDITIONAL MONTE CARLO AND APPROXIMATE ZERO-VARIANCE IMPORTANCE SAMPLING FOR NETWORK RELIABILITY ESTIMATION.....</b>	<b>1242</b>
<i>Hector Cancela, Pierre L'Ecuyer, Gerardo Rubino, Bruno Tuffin</i>	
<b>REFLECTED VARIANCE ESTIMATORS FOR SIMULATION .....</b>	<b>1254</b>
<i>Melike Meterelliyo, Christos Alexopoulos, David Goldsman</i>	
<b>PARAMETRIC AND DISTRIBUTION-FREE BOOTSTRAPPING IN ROBUST SIMULATION-OPTIMIZATION .....</b>	<b>1262</b>
<i>Gabriella Dellino, Carlo Meloni, Jack P.C. Kleijnen</i>	
<b>ROBUST SIMULATION OF ENVIRONMENTAL POLICIES USING THE DICE MODEL.....</b>	<b>1274</b>
<i>L. Jeff Hong, Zhaolin Hu, Jing Cao</i>	
<b>USING SIMULATION OPTIMIZATION AS A DECISION SUPPORT TOOL FOR SUPPLY CHAIN COORDINATION WITH CONTRACTS.....</b>	<b>1285</b>
<i>Hamidreza Eskandari, Mohamad Darayi, Christopher D. Geiger</i>	
<b>GRANULARITY OF WEIGHTED AVERAGES AND USE OF RATE STATISTICS IN AGGPRO.....</b>	<b>1297</b>
<i>Timothy Highley, Ross Gore, Cameron Snapp</i>	

**MILITARY APPLICATIONS:**

<b>SIMULATING PIRATE BEHAVIOR TO EXPLOIT ENVIRONMENTAL INFORMATION.....</b>	<b>1309</b>
<i>Leslie Esher, Stacey Hall, Eva Regnier, Paul J. Sanchez, James A. Hansen, Dashi Singham</i>	
<b>IMPACT OF LOGISTICS ON READINESS AND LIFE CYCLE COST: A DESIGN OF EXPERIMENTS APPROACH.....</b>	<b>1315</b>
<i>Keebom Kang, Mary McDonald</i>	
<b>MODELING AND ANALYSIS OF TACTICAL INSTALLATION PROTECTION MISSIONS.....</b>	<b>1326</b>
<i>Kenneth L. Byers, Timothy H. Chung, Rachel T. Johnson</i>	
<b>A MOVEMENT OPTIONS ANALYSIS SIMULATION TOOL FOR THE CANADIAN OPERATIONAL SUPPORT COMMAND .....</b>	<b>1335</b>
<i>Patricia Moorhead, Gregory Campbell</i>	
<b>MODEL FLEXIBILITY: DEVELOPMENT OF A GENERIC DATA-DRIVEN SIMULATION .....</b>	<b>1345</b>
<i>Nick A. Brown</i>	
<b>AN EXPLORATION OF THE EFFECTS OF MAINTENANCE MANNING ON COMBAT MISSION READINESS UTILIZING AGENT BASED MODELING .....</b>	<b>1355</b>
<i>Adam MacKenzie, J.O. Miller, Raymond Hill</i>	
<b>MODELS AND METRICS OF GEOMETRIC COOPERATION .....</b>	<b>1362</b>
<i>Chris Arney, Kristin Arney, Elisha Peterson</i>	
<b>MODELING AND ANALYZING TRANSIENT MILITARY AIR TRAFFIC CONTROL .....</b>	<b>1374</b>
<i>William Kaczynski, John Drew, Lawrence Leemis</i>	
<b>SHAPING SENIOR LEADER OFFICER TALENT: HOW PERSONNEL MANAGEMENT DECISIONS AND ATTRITION IMPACT THE FLOW OF ARMY OFFICER TALENT THROUGHOUT THE OFFICER CAREER MODEL .....</b>	<b>1386</b>
<i>Matthew F. Dabkowski, Samuel H. Huddleston, Paul Kucik, David Lyle</i>	
<b>PARTIAL LEADING IN PURSUIT AND EVASION GAMES .....</b>	<b>1398</b>
<i>Chris Arney, Elisha Peterson</i>	
<b>MODELING GROUND SOLDIER SITUATIONAL AWARENESS FOR CONSTRUCTIVE SIMULATION WITH RULES.....</b>	<b>1410</b>
<i>Scott Neal Reilly, James Niehaus, Peter Weyhrauch</i>	
<b>EVOLVABLE SIMULATIONS APPLIED TO AUTOMATED RED TEAMING: A PRELIMINARY STUDY .....</b>	<b>1423</b>
<i>James DeGraene, Mahinthan Chandramohan, Malcolm Yoke Hean Low, Chwee Seng Choo</i>	
<b>GAME THEORETIC SIMULATION METAMODELING USING STOCHASTIC KRIGING .....</b>	<b>1435</b>
<i>Jouni Pousi, Jirka Poropudas, Kai Virtanen</i>	

<b>A COMPARISON OF THE ACCURACY OF DISCRETE EVENT AND DISCRETE TIME.....</b>	1447
<i>Arnold Buss, Ahmed Al Rowaei</i>	
<b>REPRESENTING DYNAMIC SOCIAL NETWORKS IN DISCRETE EVENT SOCIAL SIMULATION.....</b>	1457
<i>Jonathan K. Alt, Stephen Lieberman</i>	
<b>A FAST PARALLEL MATCHING ALGORITHM FOR CONTINUOUS INTEREST MANAGEMENT.....</b>	1469
<i>Elvis S. Liu, Georgios K. Theodoropoulos</i>	
<b>SYSTEMS ENGINEERING FOR DISTRIBUTED LIVE, VIRTUAL, AND CONSTRUCTIVE (LVC) SIMULATION.....</b>	1480
<i>Scott Gallant, Chris Gaughan</i>	
<b>EMPLOYING PROXIES TO IMPROVE PARALLEL DISCRETE EVENT SIMULATION PERFORMANCE.....</b>	1491
<i>David W. Mutschler</i>	

### **MANUFACTURING APPLICATIONS:**

<b>A SIMULATION METHODOLOGY FOR ONLINE PROCESS CONTROL OF HOT MIX ASPHALT (HMA) PRODUCTION.....</b>	1501
<i>Ozgur Kabadurmus, Onkar Pathak, Jeffrey S. Smith, Alice E. Smith, Haluk Yapicioglu</i>	
<b>USING SIMIO FOR THE SPECIFICATION OF AN INTEGRATED AUTOMATED WEIGHING SOLUTION IN A CEMENT PLANT.....</b>	1513
<i>Luis Dias, Guilherme Pereira, José Oliveira, Ricardo Abreu, Pavel Vik</i>	
<b>BOTTLENECK ANALYSIS OF A CHEMICAL PLANT USING DISCRETE EVENT SIMULATION.....</b>	1526
<i>Bikram Sharda, Scott J. Bury</i>	
<b>INCREASING THROUGHPUT IN AN AUTOMATED PACKAGING LINE WITH IRREDUCIBLE COMPLEXITY.....</b>	1535
<i>Charles Harrell, Seth Winsor, Greg Teichert</i>	
<b>EVALUATING THE PERFORMANCE OF A COMPLEX POWER AND FREE CONVEYOR SYSTEM IN A FLEXIBLE MANUFACTURING ENVIRONMENT.....</b>	1542
<i>Ashish Devikar, Karthik Vasudevan, Nikhil Garge, Edward Williams, Rajesh Welekar</i>	
<b>USE OF SENSOR EMBEDDED PRODUCTS FOR END OF LIFE PROCESSING.....</b>	1552
<i>Mehmet Ali Ilgin, Surendra M. Gupta</i>	
<b>A SIMULATION MODEL TO JUSTIFY REMANUFACTURING POLICIES.....</b>	1560
<i>Farhad Azadivar, Sharon Ordoobadi</i>	
<b>DESIGN AND DEVELOPMENT OF A SUSTAINABILITY TOOLKIT FOR SIMULATION.....</b>	1569
<i>Xi Zhou, Michael E. Kuhl</i>	
<b>MANUAL ASSEMBLY LINE OPERATOR SCHEDULING USING HIERARCHICAL PREFERENCE AGGREGATION.....</b>	1581
<i>Gonca Altuger, Constantin Chassapis</i>	
<b>CONCEPTUAL MODELING IN SIMULATION PROJECTS BY MEAN ADAPTED IDEF: AN APPLICATION IN A BRAZILIAN TECH COMPANY.....</b>	1592
<i>José Arnaldo Barra Montevechi, André Luís Faustino da Silva, Fabiano Leal, Alexandre Ferreira de Pinho, Rafael Florêncio da Silva Costa, Mona Liza Moura de Oliveira</i>	
<b>SIMULATION OF A STOCHASTIC MODEL FOR A SERVICE SYSTEM.....</b>	1604
<i>Catherine Brickner, Dennis Indrawan, Derrick Williams, Srinivas R. Chakravarthy</i>	
<b>AUTOMATED 3D-MOTION PLANNING FOR RAMPS AND STAIRS IN INTRA-LOGISTICS MATERIAL FLOW SIMULATIONS.....</b>	1616
<i>Matthias Fischer, Hendrik Renken, Christoph Laroque, Guido Schaumann, Wilhelm Dangelmaier</i>	
<b>USING EMULATION TO DEBUG CONTROL LOGIC CODE.....</b>	1629
<i>Richard Phillips, Bonnie Montalvo</i>	
<b>TOWARDS CONTINUOUSLY UPDATED SIMULATION MODELS: COMBINING AUTOMATED RAW DATA COLLECTION AND AUTOMATED DATA PROCESSING.....</b>	1634
<i>Anders Skoogh, John Michaloski, Nils Bengtsson</i>	
<b>FRAMEWORK FOR SIMULATION BASED SCHEDULING OF ASSEMBLY LINES.....</b>	1646
<i>Falk Stefan Pappert, Evangelos Angelidis, Oliver Rose</i>	
<b>ESTIMATING CLEARING FUNCTIONS FROM SIMULATION DATA.....</b>	1655
<i>N. Baris Kacar, Reha Uzsoy</i>	
<b>USING EMULATION TO ENHANCE SIMULATION.....</b>	1667
<i>Christy Starner, Mati Chessin</i>	



<b>LIVE MODERNIZATIONS OF AUTOMATED MATERIAL HANDLING SYSTEMS: BRIDGING THE GAP BETWEEN DESIGN AND STARTUP USING EMULATION .....</b>	<b>1672</b>
<i>Nathan Koflanovich, Peter Hartman</i>	
<b>MACHINE CONTROL LEVEL SIMULATION OF AN AS/RS IN THE AUTOMOTIVE INDUSTRY .....</b>	<b>1683</b>
<i>Min S. Ko, G.N. Wang, Hye S. Shin, Sang C. Park</i>	
<b>TESTING LINE OPTIMIZATION BASED ON MATHEMATICAL MODELING FROM THE METAMODELS OBTAINED FROM A SIMULATION .....</b>	<b>1695</b>
<i>Roberto L. Seijo-Vidal, Sonia M. Bartolomei-Suarez</i>	
<b>USE OF RETROSPECTIVE OPTIMIZATION FOR PLACEMENT OF OIL WELLS UNDER UNCERTAINTY .....</b>	<b>1706</b>
<i>Honggang Wang, David Echeverria Ciaurri, Louis J. Durlofsky</i>	
<b>UTILISING DYNAMIC FACTORY SIMULATION TO IMPROVE UNIT COST ESTIMATION AND AID DESIGN DECISIONS .....</b>	<b>1714</b>
<i>Stuart Jinks, Jim Scanlan, Philippa Reed, Steve Wiseall</i>	
<b>PANEL DISCUSSION: BUSINESS PROCESSES FOR APPLYING DE SIMULATION EFFECTIVELY IN MANUFACTURING COMPANIES .....</b>	<b>1723</b>
<i>Onur Ulgen, Scott J. Bury, Roberto Lu, Ed Williams, Demet Wood</i>	
<b>ESTIMATING THE IMPLEMENTATION TIME FOR DISCRETE-EVENT SIMULATION MODEL BUILDING .....</b>	<b>1730</b>
<i>Leonardo Chwif, Jerry Banks, Marcos Ribeiro Pereira Barretto</i>	

**LOGISTICS AND SUPPLY CHAIN MANAGEMENT:**

<b>DYNAMIC ADJUSTMENT OF REPLENISHMENT PARAMETERS USING OPTIMUMSEEKING SIMULATION .....</b>	<b>1742</b>
<i>Chandandeep S. Grewal, S. T. Enns, Paul Rogers</i>	
<b>INVESTIGATING THE IMPACTS OF DYNAMIC PRICING AND PRICE-SENSITIVE DEMAND ON AN INVENTORY SYSTEM IN THE PRESENCE OF SUPPLY DISRUPTIONS .....</b>	<b>1754</b>
<i>Yuerong Chen, Shengyong Wang</i>	
<b>USING SYSTEM DYNAMICS FOR SHORT LIFE CYCLE SUPPLY CHAINS EVALUATION .....</b>	<b>1765</b>
<i>Enrico Briano, Claudia Caballini, Pietro Giribone, Roberto Revetria</i>	
<b>SIMULATING BACKLOG AND LOAD BUILDING PROCESSES IN A TWO-ECHELON INVENTORY SYSTEM .....</b>	<b>1778</b>
<i>Manuel D. Rossetti, Yisha Xiang</i>	
<b>EMPIRICAL METHODS FOR TWO-ECHELON INVENTORY MANAGEMENT WITH SERVICE LEVEL CONSTRAINTS BASED ON SIMULATION-REGRESSION .....</b>	<b>1791</b>
<i>Lin Li, Karthik Sourirajan, Kaan Katircioglu</i>	
<b>FLIGHT ASSIGNMENT PLAN FOR AN AIR CARGO INBOUND TERMINAL .....</b>	<b>1805</b>
<i>Loo Hay Lee, Hwei Chuen Huang, Peng Huang</i>	
<b>QUANTIFYING THE VALUE OF RFID IN AIR CARGO HANDLING PROCESS: A SIMULATION APPROACH.....</b>	<b>1815</b>
<i>Miao He, Jacqueline Morris, Tao Qin</i>	
<b>SIMULATION-BASED METHODS FOR BOOKING CONTROL IN NETWORK REVENUE MANAGEMENT .....</b>	<b>1823</b>
<i>Sumit Kunnumkal, Huseyin Topaloglu</i>	
<b>INTEGRATING OPTIMIZATION AND SIMULATION - A COMPARISON OF TWO CASE STUDIES IN MINE PLANNING .....</b>	<b>1831</b>
<i>Tom Sandeman, Chris Fricke, Peter Bodon, Chris Stanford</i>	
<b>OPTIMIZATION AND ANALYSIS OF STAFFING PROBLEMS AT A RETAIL STORE .....</b>	<b>1844</b>
<i>Kanna Miwa, Soemon Takakuwa</i>	
<b>EVALUATING CONTAINER STACKING RULES USING SIMULATION .....</b>	<b>1857</b>
<i>Eelco van Asperen, Bram Borgman, Rommert Dekker</i>	
<b>SIMULATION OF A BASE STOCK INVENTORY MANAGEMENT SYSTEM INTEGRATED WITH TRANSPORTATION STRATEGIES OF A LOGISTIC NETWORK .....</b>	<b>1867</b>
<i>EunSu Lee, Kambiz Farahmand</i>	
<b>MODELING AND SIMULATION METHOD TO FIND AND ELIMINATE BOTTLENECKS IN PRODUCTION LOGISTICS SYSTEMS.....</b>	<b>1879</b>
<i>Pawel Pawlewski, Marek Fertsch</i>	
<b>REAL TIME LOCATION SYSTEM IN SUPPORT OF BAYESIAN NETWORK.....</b>	<b>1890</b>
<i>Yun Bae Kim, Jinsoo Park, Seho Kee, Kiburm Song, Mi Ae Han</i>	

<b>A SIMULATION APPROACH TO ESTIMATE THE VALUE OF INFORMATION IN MARITIME SUPPLY CHAINS</b> .....	1900
<i>U. Hari Prasad, Srinagesh Gavirneni</i>	
<b>AUTOMATED STOWAGE PLANNING FOR LARGE CONTAINERSHIPS WITH IMPROVED SAFETY AND STABILITY</b> .....	1909
<i>Min Zeng, Malcolm Yoke Hean Low, Wen Jing Hsu, Shell Ying Huang, Fan Liu, Cho Aye Win</i>	
<b>MATCHING PRODUCTION PLANNING AND SHIP ARRIVAL SCHEDULING BY SIMULATION</b> .....	1923
<i>Marcelo Moretti Fioroni, Sydney Santos Cordeiro, Luiz Augusto G. Franzese, Luiz Francisco da Silva, Caio Eduardo Zanin, Vitor Luciano de Almeida Benevides, José Alexandre Sereno Quintáns, Lúcia Dini Pereira, Isac Reis de Santana, Paulo Savastano</i>	
<b>STATE ESTIMATION OF A SUPPLY CHAIN USING IMPROVED RESAMPLING RULES FOR PARTICLE FILTERING</b> .....	1931
<i>Nurcin Celik, Young-Jun Son</i>	
<b>A SIMULATION MODELING FRAMEWORK FOR SUPPLY CHAIN SYSTEM ANALYSIS</b> .....	1944
<i>Shigeki Umeda, Fang Zhang</i>	
<b>SUPPLY CHAIN AND HYBRID MODELING: THE PANAMA CANAL OPERATIONS AND ITS SALINITY DIFFUSION</b> .....	1956
<i>Mario Marin, Luz Alba Andrade, Yanshen Zhu, Erwin Atencio, Carlos Boya, Carlos Mendizabal</i>	
<b>UNLOCKING VALUE FROM COMPONENT EXCHANGE CONTRACTS IN AVIATION USING SIMULATION-BASED OPTIMISATION</b> .....	1967
<i>Peter Lendermann, Arnd Schirmann, Boon Ping Gan, Helge Fromm, Nirupam Julka</i>	
<b>SIMULATION-BASED CONTROL FOR GREEN TRANSPORTATION WITH HIGH DELIVERY SERVICE</b> .....	1979
<i>Seokgi Lee, Vittaldas V. Prabhu</i>	
<b>REAL-TIME DATA DRIVEN ARTERIAL SIMULATION FOR PERFORMANCE MEASURES ESTIMATION</b> .....	1990
<i>Dwayne Henclewood, Richard Fujimoto, Angshuman Guin, Randall Guensler, Michael Hunter</i>	
<b>AGGREGATE MODELING FOR FLOW TIME PREDICTION OF AN END-OF-AISLE ORDER PICKING WORKSTATION WITH OVERTAKING</b> .....	2003
<i>Ricky Andriansyah, Pascal Etman, Jacobus Rooda</i>	
<b>ENHANCING SIMULATION AS A DECISION-MAKING SUPPORT TOOL FOR A CROSSDOCKING CENTER IN A DYNAMIC RETAIL-DISTRIBUTION ENVIRONMENT</b> .....	2015
<i>Yan Liu, Soemon Takakuwa</i>	
<b>OIL-DERIVATIVES PIPELINE LOGISTICS USING DISCRETE-EVENT SIMULATION</b> .....	2027
<i>Vanina G. Cafaro, Diego C. Cafaro, Carlos A. Méndez, Jaime Cerdá</i>	
<b>A SIMULATION MODEL TO EVALUATE SUGARCANE SUPPLY SYSTEMS</b> .....	2040
<i>João José de Assis Rangel, André Prado Cunha</i>	
<b>DISCRETE EVENT SIMULATION COMBINED WITH MULTI-CRITERIA DECISION ANALYSIS APPLIED TO STEEL PLANT LOGISTICS SYSTEM PLANNING</b> .....	2052
<i>Rodolfo Celestino dos Santos Silva, Rui Carlos Botter, Newton Narciso Pereira, Afonso Celso Medina, Thiago Barros Brito</i>	
<b>ADVANCED LOGISTICS ANALYSIS CAPABILITIES ENVIRONMENT</b> .....	2064
<i>Steven E. Saylor, James K. Dailey</i>	
<b>LIBROS-II: RAILWAY MODELING WITH DEVS</b> .....	2076
<i>Yilin Huang, Mamadou D. Seck, Alexander Verbraeck</i>	
<b>AN APPROACH FOR LOOSELY COUPLED DISCRETE EVENT SIMULATION MODELS AND ANIMATION COMPONENTS</b> .....	2087
<i>Michele Fumarola, Mamadou Seck, Alexander Verbraeck</i>	
 <b><u>HEALTHCARE APPLICATIONS:</u></b>	
<b>PLANNING FOR INFECTIOUS DISEASE OUTBREAKS: A GEOGRAPHIC DISEASE SPREAD, CLINIC LOCATION, AND RESOURCE ALLOCATION SIMULATION</b> .....	2097
<i>Sean Carr, Stephen Roberts</i>	
<b>MODELLING THE RESPONSE OF A PUBLIC HEALTH DEPARTMENT TO INFECTIOUS DISEASE</b> .....	2111
<i>Travis Worth, Erika Samoff, Reha Uzsoy, Anne-Marie Meyer, Jean-Marie Maillard, Aaron M. Wendelboe</i>	
<b>COST-EFFECTIVENESS ANALYSIS OF VACCINATION AND SELF-ISOLATION IN CASE OF H1N1</b> .....	2125
<i>Hamed Yarmand, Mary W. Bengtson, Julie S. Ivy, Stephen D. Roberts, Neal M. Bengtson</i>	

<b>EFFECTIVE REAL-TIME ALLOCATION OF PANDEMIC INTERVENTIONS</b> .....	2137
<i>Catherine Dibble</i>	
<b>SIMULATION OF STRATEGIES FOR CONTAINING PANDEMIC INFLUENZA</b> .....	2147
<i>Sigrún Andradóttir, Wenchi Chiu, David Goldsman, Mi Lim Lee, Kwok-Leung Tsui, David N. Fisman, Beate Sander, Azhar Nizam</i>	
<b>INCORPORATING HEALTHCARE SYSTEMS IN PANDEMIC MODELS</b> .....	2156
<i>Natalia E. Lizon, Dionne M. Aleman, Brian Schwartz</i>	
<b>TOWARD OPTIMAL RESOURCE-ALLOCATION FOR CONTROL OF EPIDEMICS: AN AGENT-BASED-SIMULATION APPROACH</b> .....	2163
<i>Parastu Kasaie, Abolfazl Vaghefi, W. David Kelton, S. G. R. Jalali Naini</i>	
<b>A DYNAMIC PATIENT NETWORK MODEL OF HOSPITAL-ACQUIRED INFECTIONS</b> .....	2175
<i>Sean Barnes, Bruce Golden, Edward Wasil</i>	
<b>MODELING INTERRUPTIONS AND PATIENT FLOW IN A PREOPERATIVE HOSPITAL ENVIRONMENT</b> .....	2187
<i>Bryan Pearce, Narges Hosseini, Nathan Huynh, Shannon Harris, Kevin Taaffe</i>	
<b>MODEL DRIVEN HEALTHCARE: DISCONNECTED PRACTICES</b> .....	2197
<i>Tillal Eldabi, Gyuchan T. Jun, John Clarkson, Jonathan H. Klein</i>	
<b>ECONOMICS OF MODELING AND SIMULATION: REFLECTIONS AND IMPLICATIONS FOR HEALTHCARE</b> .....	2209
<i>Mohsen Jahangirian, Simon J E Taylor, Terry Young</i>	
<b>TOWARDS THE HOLY GRAIL: COMBINING SYSTEM DYNAMICS AND DISCRETE-EVENT SIMULATION IN HEALTHCARE</b> .....	2219
<i>Sally C. Brailsford, Shivam M. Desai, Joe Viana</i>	
<b>MODELING CARE TEAMS AT MAYO CLINIC</b> .....	2230
<i>Thomas Rohleder, Todd Huschka, Jason Egginton, Dan O'Neil, Naomi Woychick</i>	
<b>BI-CRITERIA ANALYSIS OF AMBULANCE DIVERSION POLICIES</b> .....	2241
<i>Adrian Ramirez Nafarrate, John W. Fowler, Teresa Wu</i>	
<b>INTEGRATED AGENT-ORIENTED MODELING AND SIMULATION OF POPULATION AND HEALTHCARE DELIVERY NETWORK: APPLICATION TO COPD CHRONIC DISEASE IN A CANADIAN REGION</b> .....	2253
<i>Moez Charfeddine, Benoit Montreuil</i>	
<b>INTEGRATING BALANCED SCORECARD AND SIMULATION MODELING TO IMPROVE EMERGENCY DEPARTMENT PERFORMANCE IN IRISH HOSPITALS</b> .....	2266
<i>Khaled Ismail, Waleed Abo-Hamad, Amr Arisha</i>	
<b>USE OF SIMULATION IN SUPPORT OF ANALYSIS AND IMPROVEMENT OF BLOOD COLLECTION PROCESS</b> .....	2278
<i>Benjamin de Mendonca, Andrew Phibbs, Joshua Vandermeer, Zbigniew J. Pasek</i>	
<b>COMPARING TWO OPERATING-ROOM-ALLOCATION POLICIES FOR ELECTIVE AND EMERGENCY SURGERIES</b> .....	2290
<i>Yann Ferrand, Michael Magazine, Uday Rao</i>	
<b>DELAY PREDICTORS FOR CUSTOMER SERVICE SYSTEMS WITH TIME-VARYING PARAMETERS</b> .....	2301
<i>Rouba Ibrahim, Ward Whitt</i>	
<b>CHARACTERIZING AN EFFECTIVE HOSPITAL ADMISSIONS SCHEDULING AND CONTROL MANAGEMENT SYSTEM: A GENETIC ALGORITHM APPROACH</b> .....	2313
<i>Jonathan E. Helm, Marcial Lapp, Brendan D. See</i>	
<b>A STOCHASTIC CONTROL APPROACH TO AVOIDING EMERGENCY DEPARTMENT OVERCROWDING</b> .....	2325
<i>Arun Chockalingam, Krishna Jayakumar, Mark A. Lawley</i>	
<b>MODELING AND SIMULATION OF TEACHERS OCCUPATIONAL STRESS DIFFUSION IN CHINA</b> .....	2338
<i>Tianyin Liu, Bin Hu</i>	
<b>EMERGENCY MEDICAL SYSTEMS ANALYSIS BY SIMULATION AND OPTIMIZATION</b> .....	2348
<i>Pedro Marinho Sizenando Silva, Luiz Ricardo Pinto</i>	
<b>COST-UTILITY ANALYSIS OF BEHAVIORAL INTERVENTIONS FOR HIV-INFECTED PERSONS TO REDUCE HIV TRANSMISSION IN THE USA</b> .....	2359
<i>Sada Soorapanth, Stephen E. Chick</i>	
<b>A REVENUE MANAGEMENT APPROACH FOR MANAGING OPERATING ROOM CAPACITY</b> .....	2370
<i>Alia Stanciu Luis Vargas, Jerrold May</i>	
<b>SIMULATING THE INFLUENCE OF A 45% INCREASE IN PATIENT VOLUME ON THE EMERGENCY DEPARTMENT OF AKERSHUS UNIVERSITY HOSPITAL</b> .....	2381
<i>Lene Berge Holm, Fredrik A. Dahl</i>	

<b>A SIMULATION STUDY TO INCREASE THROUGHPUT IN AN ENDOSCOPY CENTER</b> .....	2388
<i>Martha A. Centeno, Helida R. Dodd, Manuel Aranda, Yuly Sanchez</i>	

**MASM: SEMICONDUCTOR MANUFACTURING:**

<b>A MULTISTAGE MATHEMATICAL PROGRAMMING BASED SCHEDULING APPROACH FOR THE PHOTOLITHOGRAPHY AREA IN SEMICONDUCTOR MANUFACTURING</b> .....	2400
<i>Andreas Klemmt, Frank Lehmann, Jan Lange, Jens Seyfert, Gerald Weigert</i>	
<b>MACHINE QUALIFICATION MANAGEMENT FOR A SEMICONDUCTOR BACK-END FACILITY</b> .....	2412
<i>Mengying Fu, Moeed Haghnevis, Ronald Askin, John Fowler, Muhong Zhang</i>	
<b>GENETIC ALGORITHMS TO SOLVE A SINGLE MACHINE MULTIPLE ORDERS PER JOB SCHEDULING PROBLEM</b> .....	2419
<i>Oleh Sobeyko, Lars Mönch</i>	
<b>GENERATING DISPATCHING RULES FOR SEMICONDUCTOR MANUFACTURING TO MINIMIZE WEIGHTED TARDINESS</b> .....	2430
<i>Torsten Hildebrandt, Jens Heger, Bernd Scholz-Reiter, Christoph Pickardt, Jurgen Branke</i>	
<b>A PULL/PUSH CONCEPT FOR TOOLGROUP WORKLOAD BALANCE IN WAFER FAB</b> .....	2442
<i>Zhugen Zhou, Oliver Rose</i>	
<b>METHOD FOR DETERMINING AMOUNT OF PRODUCT RELEASED INTO A TIME SENSITIVE OPERATION</b> .....	2449
<i>Jonathan Levy, Richard Burda, Thomas Stahlecker</i>	
<b>APPLICATION OF ERLANG DISTRIBUTION IN CYCLE TIME ESTIMATION OF TOOLSETS WITH WIP-DEPENDENT ARRIVAL AND SERVICE IN A SINGLE PRODUCT-TYPE SINGLE FAILURE-TYPE ENVIRONMENT</b> .....	2457
<i>Raha Akhavan-Tabatabaei, Juan Jose Ucros, J George Shanthikumar</i>	
<b>SINGLE-SERVER AGGREGATION OF A RE-ENTRANT FLOW LINE</b> .....	2467
<i>Casper Veeger, Pascal Etman, Jacobus Rooda, Ivo Adan</i>	
<b>A DISCUSSION OF OBJECT-ORIENTED PROCESS MODELING APPROACHES FOR DISCRETE MANUFACTURING ON THE EXAMPLE OF THE SEMICONDUCTOR INDUSTRY</b> .....	2479
<i>Hans Ehm, Stefan Heilmayer, Thomas Ponsignon, Tim Russland</i>	
<b>TOWARDS REALIZATION OF A HIGH-FIDELITY SIMULATION MODEL FOR SHORTTERM HORIZON FORECASTING IN WAFER FABRICATION FACILITIES</b> .....	2489
<i>Wolfgang Scholl, Boon Ping Gan, Ming Li Peh, Peter Lendermann, Daniel Noack, Oliver Rose, Patrick Preuss</i>	
<b>AMHS FACTORS ENABLING SMALL WAFER LOT MANUFACTURING IN SEMICONDUCTOR WAFER FAB</b> .....	2501
<i>Jesus A. Jimenez, Robert Wright, Michael Bell, Alexander Grosser, Charitha Adikaram, Victoria Davila</i>	
<b>PERFORMANCE IMPROVEMENT FOR A WET BENCH TOOL</b> .....	2512
<i>Kamil Erkan Kabak, Cathal Heavey, Vincent Corbett</i>	
<b>A MARKOV DECISION PROCESS MODEL FOR OPTIMAL POLICY MAKING IN THE MAINTENANCE OF A SINGLE-MACHINE SINGLE-PRODUCT TOOLSET</b> .....	2520
<i>Juan Sebastian Borrero, Raha Akhavan-Tabatabaei</i>	
<b>THE IMPACT OF OPERATION-TO-TOOL DEDICATIONS ON FACTORY STABILITY</b> .....	2532
<i>James P. Ignizio</i>	

**RISK ANALYSIS:**

<b>A TWO-LEVEL LOAN PORTFOLIO OPTIMIZATION PROBLEM</b> .....	2540
<i>JianQiang Hu, Jun Tong, Tie Liu, Rongzeng Cao, Bo Yang</i>	
<b>ESTIMATING GREEKS FOR VARIANCE-GAMMA</b> .....	2546
<i>Lingyan Cao, Michael C. Fu</i>	
<b>CONTROL VARIATES FOR SENSITIVITY ESTIMATION</b> .....	2555
<i>Tarik Borogovac, Na Sun, Pirooz Vakili</i>	
<b>NAÏVE LEARNING ALGORITHMS UTILIZED FOR THE PREDICTION OF STOCK PRICES TO COMPARE ECONOMIC MODELS OF DECISION MAKING</b> .....	2568
<i>Caleb Krell, Hank Grant</i>	
<b>IMPORTANCE SAMPLING FOR TAIL RISK IN DISCRETELY REBALANCED PORTFOLIOS</b> .....	2581
<i>Paul Glasserman, Xingbo Xu</i>	
<b>IMPORTANCE SAMPLING FOR PARAMETRIC ESTIMATION</b> .....	2592
<i>Xiaojin Tang, Pirooz Vakili</i>	

<b>CONTAMINATION CONTROL IN FOOD SUPPLY CHAIN .....</b>	<b>2604</b>
<i>Yingjie Hu, JianQiang Hu, Yifan Xu, Fengchun Wang, Rong Zeng Cao</i>	
<b>MONTE CARLO SIMULATION-BASED SUPPLY CHAIN DISRUPTION MANAGEMENT FOR WARGAMES.....</b>	<b>2608</b>
<i>Shilan Jin, Jun Zhuang, Zigeng Liu</i>	
<b>AMERICAN OPTION PRICING WITH RANDOMIZED QUASI-MONTE CARLO SIMULATIONS.....</b>	<b>2620</b>
<i>Maxime Dion, Pierre L'Ecuyer</i>	
<b>PATHWISE DERIVATIVE METHODS ON SINGLE-ASSET AMERICAN OPTION SENSITIVITY ESTIMATION .....</b>	<b>2636</b>
<i>Nan Chen, Yanchu Liu</i>	
<b>CONTINGENT CAPITAL WITH DISCRETE CONVERSION FROM DEBT TO EQUITY .....</b>	<b>2647</b>
<i>Paul Glasserman, Behzad Nouri</i>	
<b>IMPORTANCE SAMPLING FOR INDICATOR MARKOV CHAINS .....</b>	<b>2657</b>
<i>Kay Giesecke, Alexander D. Shkolnik</i>	
<b>CONFIDENCE INTERVALS FOR QUANTILES AND VALUE-AT-RISK WHEN APPLYING IMPORTANCE SAMPLING .....</b>	<b>2666</b>
<i>Fang Chu, Marvin K. Nakayama</i>	
<b>SELECTING SMALL QUANTILES.....</b>	<b>2677</b>
<i>Raghu Pasupathy, Roberto Szechtman, Enver Yucesan</i>	
<b>IMPORTANCE SAMPLING FOR RISK CONTRIBUTIONS OF CREDIT PORTFOLIOS .....</b>	<b>2686</b>
<i>Guangwu Liu</i>	
<b>SIMULATION ON DEMAND FOR PRICING MANY SECURITIES.....</b>	<b>2697</b>
<i>Ming Liu, Barry L. Nelson, Jeremy Staum</i>	
<b>AN IMPORTANCE SAMPLING METHOD FOR PORTFOLIO CVaR ESTIMATION WITH GAUSSIAN COPULA MODELS.....</b>	<b>2705</b>
<i>Pu Huang, Dharmashankar Subramanian, Jie Xu</i>	
<b>MULTIDIMENSIONAL FOURIER INVERSION USING IMPORTANCE SAMPLING WITH APPLICATION TO OPTION PRICING.....</b>	<b>2716</b>
<i>Sandeep Juneja, Santanu Dey</i>	
<b>MONTE CARLO FOR LARGE CREDIT PORTFOLIOS WITH POTENTIALLY HIGH CORRELATIONS .....</b>	<b>2725</b>
<i>Jose H. Blanchet, Xuan Yang, Jingchen Liu</i>	
<b>AN EFFICIENT SIMULATION PROCEDURE FOR POINT ESTIMATION OF EXPECTED SHORTFALL .....</b>	<b>2736</b>
<i>Ming Liu, Barry L. Nelson, Jeremy Staum</i>	

## **NETWORKS:**

<b>REDUCING COMMUNICATION DETECTION AND EAVESDROPPING USING MOBILE AGENT RELAY NETWORKS.....</b>	<b>2747</b>
<i>Hyon Kwak, Brett Borghetti</i>	
<b>STREAMING WORKLOAD GENERATOR FOR TESTING BILLING MEDIATION PLATFORM IN TELECOM INDUSTRY .....</b>	<b>2757</b>
<i>Eric Bouillet, Parijat Dube</i>	
<b>DOES THE ERLANG C MODEL FIT IN REAL CALL CENTERS?.....</b>	<b>2768</b>
<i>Thomas R. Robbins, D. J. Medeiros, Terry P. Harrison</i>	
<b>SIMULATING NON-STATIONARY CONGESTION SYSTEMS USING SPLITTING WITH APPLICATIONS TO CYBER SECURITY .....</b>	<b>2780</b>
<i>Martin J. Fischer, John F. Shortle, Denise M.B. Masi, Chun-Hung Chen</i>	
<b>CYBERSIM: GEOGRAPHIC, TEMPORAL, AND ORGANIZATIONAL DYNAMICS OF MALWARE PROPAGATION.....</b>	<b>2791</b>
<i>Nandakishore Santhi, Guanhua Yan, Stephan Eidenbenz</i>	
<b>ESTIMATING PATH LOSS IN WIRELESS LOCAL AREA NETWORKS USING ORDINARY KRIGING .....</b>	<b>2803</b>
<i>Abdullah Konak</i>	
<b>SIMULATION OPTIMIZATION EMBEDDED PARTICLE SWARM OPTIMIZATION FOR RELIABLE SERVER ASSIGNMENT .....</b>	<b>2812</b>
<i>Sadan Kulturel-Konak, Abdullah Konak</i>	

<b>A KALMAN FILTER-BASED PREDICTION SYSTEM FOR BETTER NETWORK CONTEXT AWARENESS</b> .....	2822
<i>James Haught, Kenneth Hopkinson, Nathan Stuckey, Michael Dop, Alexander Stirling</i>	
<b>FAST SIMULATION OF BACKGROUND TRAFFIC THROUGH FAIR QUEUEING NETWORKS</b> .....	2830
<i>Dong Jin, David M. Nicol</i>	
<b>DEVS-SUITE SIMULATOR: A TOOL TEACHING NETWORK PROTOCOLS</b> .....	2842
<i>Hessam Sarjoughian, Ahmet Zengin</i>	
<b>MODELING AFFILIATIONS IN NETWORKS</b> .....	2853
<i>Brian Cloteaux</i>	
<b>RISE: REST-ING HETEROGENEOUS SIMULATIONS INTEROPERABILITY</b> .....	2863
<i>Khaldoon Al-Zoubi, Gabriel Wainer</i>	
<b>MAINTAINING A DISTRIBUTED SYMBIOTIC RELATIONSHIP USING DELEGATE MULTIAGENT SYSTEMS</b> .....	2876
<i>Rutger Claes, Tom Holvoet</i>	
<b>HIGHWAY MOBILITY AND VEHICULAR AD-HOC NETWORKS IN NS-3</b> .....	2886
<i>Hadi Arbabi, Michele C. Weigle</i>	
<b>DISCRETE EVENT SIMULATION MODEL FOR ANALYSIS OF HORIZONTAL SCALING IN THE CLOUD COMPUTING MODEL</b> .....	2899
<i>Joseph Idziorek</i>	

### **PROJECT MANAGEMENT AND CONSTRUCTION:**

<b>FORESIGHT VERSUS SIMULATION: CONSTRUCTION PLANNING USING GRAPHICAL CONSTRAINT-BASED MODELING</b> .....	2910
<i>Ian Flood</i>	
<b>CLUSTERED SIMULATION FOR THE SIMULATION OF LARGE REPETITIVE CONSTRUCTION PROJECTS</b> .....	2920
<i>Amr Kandil, Sherif Farghal, Ahmed Samer Ezeldin, Tarek Mahfouz</i>	
<b>DERIVATION AND ASSESSMENT OF INTEREST IN CASH FLOW CALCULATIONS FOR TIME-COST OPTIMIZATIONS IN CONSTRUCTION PROJECT MANAGEMENT</b> .....	2932
<i>Gunnar Lucko, Richard C. Thompson</i>	
<b>INTEGRATING SIMULATION INTO THE RESEARCH AND TEACHING OF CONSTRUCTION ENGINEERING AND MANAGEMENT: REFLECTIONS ON EXPERIENCE</b> .....	2944
<i>David N. Ford</i>	
<b>AN HLA-BASED BIDDING GAME WITH INTELLIGENT VIRTUAL PLAYER</b> .....	2951
<i>Simaan AbouRizk, Stephen Hague, Yasser Mohamed, Aminah Robinson Fayek</i>	
<b>CLOSING THE LOOP BETWEEN PROJECT NETWORK SIMULATION RESEARCH AND PEDAGOGY</b> .....	2964
<i>John E. Taylor</i>	
<b>IDENTIFICATION OF INFORMATION REQUIREMENTS USING SIMULATION FOR SUPPORTING CONSTRUCTION PRODUCTIVITY ASSESSMENT</b> .....	2971
<i>Seyed Mohsen Shahandashii, Burcu Akinici, James Garrett, Lucio Soibelman</i>	
<b>STRATEGY OPTIMIZATION AND GENERATION FOR CONSTRUCTION PROJECT MANAGEMENT USING AN INTERACTIVE SIMULATION</b> .....	2983
<i>Pei Tang, Nilufer Onder, Amlan Mukherjee</i>	
<b>ROBUST MOBILE COMPUTING FRAMEWORK FOR VISUALIZATION OF SIMULATED PROCESSES IN AUGMENTED REALITY</b> .....	2995
<i>Suyang Dong, Vineet R. Kamat</i>	
<b>A MULTIPURPOSE SIMULATION PLATFORM FOR DECISION-MAKING IN CONSTRUCTION MANAGEMENT</b> .....	3007
<i>Corey Tebo, Amlan Mukherjee, Nilufer Onder</i>	
<b>COMPARISON OF MANUAL AND AUTOMATED SIMULATION GENERATION APPROACHES AND THEIR USE FOR CONSTRUCTION APPLICATIONS</b> .....	3016
<i>Michael G. Madden, Gunnar Lucko, Perakath C. Benjamin, Kannan Swaminathan</i>	
<b>A CONCEPTUAL FRAMEWORK TO ENERGY ESTIMATION IN BUILDINGS USING AGENT BASED MODELING</b> .....	3029
<i>Elie Azar, Carol Menassa</i>	
<b>SUSTAINABILITY AND SOCIO-ENVIRO-TECHNICAL SYSTEMS: MODELING TOTAL COST OF OWNERSHIP IN CAPITAL FACILITIES</b> .....	3041
<i>Annie R. Pearce, Kristen L. Sanford Bernhardt, Michael J. Garvin</i>	

<b>LESSONS LEARNED FROM UTILIZING DISCRETE-EVENT SIMULATION MODELING FOR QUANTIFYING CONSTRUCTION EMISSIONS IN PRE-PLANNING PHASE .....</b>	<b>3054</b>
<i>Feniosky A. Peña-Mora, SangHyun Lee, Wenjia Pan, Changbum Ahn</i>	
<b>DEVELOPING COMPLEX DISTRIBUTED SIMULATION FOR INDUSTRIAL PLANT CONSTRUCTION USING HIGH LEVEL ARCHITECTURE.....</b>	<b>3061</b>
<i>Simaan AbouRizk, Yasser Mohamed, Hosein Taghaddos, Farzaneh Saba, Stephen Hague</i>	
<b>3D CAD MODELING AND VISUALIZATION OF THE TUNNEL CONSTRUCTION PROCESS IN A DISTRIBUTED SIMULATION ENVIRONMENT .....</b>	<b>3073</b>
<i>Yang Zhang, Siri Fernando, Elmira Moghani, Simaan M. AbouRizk</i>	
<b>CONSTRUCTION LOGISTICS PLANNING BY SIMULATION.....</b>	<b>3085</b>
<i>Julia Voigtmann, Hans-Joachim Bargstädt</i>	
<b>INTEGRATED GENETIC ALGORITHM AND ITS APPLICATIONS FOR CONSTRUCTION RESOURCE OPTIMIZATION .....</b>	<b>3096</b>
<i>Jin-Lee Kim</i>	
<b>EXAMINING THE RELATIONSHIP BETWEEN ALGORITHM STOPPING CRITERIA AND PERFORMANCE USING ELITIST GENETIC ALGORITHM.....</b>	<b>3104</b>
<i>Jin-Lee Kim</i>	
<b>SIMULATION-BASED WORKFORCE ASSIGNMENT CONSIDERING POSITION IN A SOCIAL NETWORK.....</b>	<b>3112</b>
<i>Nurcin Celik, Hui Xi, Dong Xu, Young-Jun Son</i>	
<b>CONSTRUCTION PROCESS SIMULATION IN BRIDGE BUILDING BASED ON SIGNIFICANT DAY-TO-DAY DATA .....</b>	<b>3125</b>
<i>Karin Ailland, Hans-Joachim Bargstädt, Sebastian Hollermann</i>	
<b>SIMULATING THE EFFECT OF ACCESS ROAD ROUTE SLECTION ON WIND FARM CONSTRUCTION.....</b>	<b>3137</b>
<i>Khaled Nassar, Hesham Osman, Mohamed El Masry</i>	
<b>A SIMULATION-BASED PLANNING SYSTEM FOR WIND TURBINE CONSTRUCTION.....</b>	<b>3148</b>
<i>Dina Atef, Khaled Nassar, Hesham Osman, Moheeb Ibrahim</i>	
<b>QUANTITATIVE MODEL FOR DETERMINING INCENTIVE/DISINCENTIVE AMOUNTS THROUGH SCHEDULE SIMULATIONS .....</b>	<b>3160</b>
<i>Kunhee Choi, Young Hoon Kwak, Byunggu Yu</i>	

**SCHEDULING APPLICATIONS:**

<b>USING SIMULATION-BASED STOCHASTIC APPROXIMATION TO OPTIMIZE STAFFING OF SYSTEMS WITH SKILLS-BASED-ROUTING .....</b>	<b>3172</b>
<i>Avishai Mandelbaum, Zohar Feldman</i>	
<b>OUTPATIENTS APPOINTMENT SCHEDULING WITH MULTI-DOCTOR SHARING RESOURCES.....</b>	<b>3183</b>
<i>Nara Yeon, Taesik Lee, Hoon Jang</i>	
<b>A LAGRANGIAN APPROACH TO DYNAMIC RESOURCE ALLOCATION .....</b>	<b>3195</b>
<i>Yasin Gocgun, Archis Ghate</i>	
<b>ARCHITECTURE FOR SIMULATION-BASED PERFORMANCE ASSESSMENT OF PLANNING APPROACHES IN SEMICONDUCTOR MANUFACTURING .....</b>	<b>3206</b>
<i>Thomas Ponsignon, Lars Mönch</i>	
<b>ENTERPRISE SCHEDULING: HYBRID AND HIERARCHICAL ISSUES .....</b>	<b>3215</b>
<i>Carlos Mendizabal, Magdy Helal, Mario Marin, John Pastrana</i>	
<b>DEVELOPING SIMULATION-BASED DECISION SUPPORT SYSTEMS FOR CUSTOMERDRIVEN MANUFACTURING OPERATION PLANNING .....</b>	<b>3228</b>
<i>Juhani Heilala, Matti Maantila, Jari Montonen, Jarkko Sillanpää, Paula Järvinen, Tero Jokinen, Sauli Kivikunnas</i>	
<b>SIMULATION-BASED ADAPTION OF SCHEDULING KNOWLEDGE.....</b>	<b>3241</b>
<i>Mark Aufenanger, Patrick van Lück</i>	
<b>MODELING AND SIMULATION OF CONTAINER TERMINAL LOGISTICS SYSTEMS USING HARVARD ARCHITECTURE AND AGENT-BASED COMPUTING .....</b>	<b>3249</b>
<i>Bin Li, Wen-feng Li</i>	
<b>FRAMEWORK AND INDICATORS FOR A SUSTAINABLE MANUFACTURING MAPPING METHODOLOGY .....</b>	<b>3264</b>
<i>Marja Paju, Björn Johansson, Juhani Heilala, Markku Hentula, Antti Heikkilä</i>	
<b>A FRAMEWORK FOR MULTI-RESOLUTION MODELING OF SUSTAINABLE MANUFACTURING.....</b>	<b>3276</b>
<i>Sanjay Jain, Deogratias Kibira</i>	

<b>SIMULATION DATA ARCHITECTURE FOR SUSTAINABLE DEVELOPMENT .....</b>	<b>3288</b>
<i>Adrien Boulonne, Mark Aufenanger, Björn Johansson, Anders Skoogh</i>	

**HOMELAND SECURITY:**

<b>SIMULATION-BASED MANPOWER PLANNING WITH OPTIMIZED SCHEDULING IN A DISTRIBUTED MULTI-USER ENVIRONMENT .....</b>	<b>3300</b>
<i>David Kalasky, Michael Coffman, Melanie De Grano, Kevin Field</i>	
<b>A KNOWLEDGE SHARING FRAMEWORK FOR HOMELAND SECURITY MODELING AND SIMULATION .....</b>	<b>3313</b>
<i>Sanjay Jain, Charles W. Hutchings, Y. Tina Lee, Charles R. McLean</i>	
<b>MODELING AND SIMULATING SUPPLY CHAIN SCHEDULE RISK .....</b>	<b>3325</b>
<i>Gandolf R. Finke, Amanda J. Schmitt, Mahender Singh</i>	
<b>SIMULATING THE SEISMIC PERFORMANCE OF A LARGE-SCALE ELECTRIC NETWORK IN THE U.S. MIDWEST .....</b>	<b>3335</b>
<i>Edgar C. Portante, Gustav R. Wulfschle, James A. Kavicky, Stephen F. Folga, Brian A. Craig, Leah E. Talaber</i>	
<b>SIMULATING LARGE-SCALE EVACUATION SCENARIOS IN COMMERCIAL SHOPPING DISTRICTS - METHODOLOGIES AND CASE STUDY .....</b>	<b>3347</b>
<i>Manuel D. Rossetti, Qingbiao Ni</i>	
<b>DESIGNING OPTIMAL WATER QUALITY MONITORING NETWORK FOR RIVER SYSTEMS AND APPLICATION TO A HYPOTHETICAL RIVER .....</b>	<b>3359</b>
<i>Chuljin Park, Seong-Hee Kim, Ilker T. Telci, Mustafa M. Aral</i>	

**PHD COLLOQUIUM:**

<b>LIFE AFTER THE PHD: WHAT I WISH I HAD KNOWN SOONER .....</b>	<b>3367</b>
<i>Leon F. McGinnis</i>	

**Author Index**