

46th Annual Simulation Symposium

(ANSS 2013)

2013 Spring Simulation Multi-Conference (SpringSim'13)

Simulation Series Volume 45 Number 2

**San Diego, California, USA
7-10 April 2013**

Editors:

**Eric Imsand
Shaoen Wu
Qishi Wu**

ISBN: 978-1-62748-030-7

Printed from e-media with permission by:

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



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

© 2013 SIMULATION COUNCILS, INC.

Responsibility for the accuracy of all statement in each paper rests solely with the author(s). Statements are not necessarily representative of, nor endorsed by, The Society for Modeling and Simulation International.

Printed by Curran Associates, Inc. (2013)

Permission is granted to photocopy portions of this publication for personal use and for the use of students provided credit is given to the conference and publication. Permission does not extend to other types of reproduction nor to copying for incorporation into commercial advertising nor for any other profit-making purpose. Other publications are encouraged to include 300- to 500-word abstracts or excerpts from any paper contained in this book, provided credits are given to the author and the conference. For permission to publish a complete paper write: The Society for Modeling and Simulation International (SCS), 2598 Fortune Way, Suite I, San Diego, CA 92081, USA.

Additional copies of the Proceedings are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
curran@proceedings.com
www.proceedings.com/0128.html

or

The Society for Modeling
and Simulation International
2598 Fortune Way, Ste I
Vista, CA 92081 USA
www.scs.org

ISBN: 978-1-62748-030-7
PRINTED IN THE UNITED STATES

TABLE OF CONTENTS

Cost-benefit Analysis of Digital Rights Management Products Using Stochastic Models	1
<i>Wen Zeng, Kaiyu Liu, Maciej Koutny</i>	
Using Crowdsourced Geographic Information from OpenStreetMap for Discrete Event Simulation of Logistic Systems	11
<i>Torben Meyer, Matthias Trojahn, Steffen Strassburger</i>	
Implementing RSVP-Based Capacity Admission in OPNET Modeler	19
<i>Pana Flavius, Put Ferdi</i>	
Wireless Sensor Network Simulation with Xen	25
<i>Paul Harvey, Joseph Sventek</i>	
Stochastic Agent-Based Simulations of Social Networks	33
<i>Garrett Bernstein, Kyle O'Brien</i>	
Scalable and Transparent Approach to Media Archive Using Digital Object Architecture	41
<i>Tu Hoang, Lan Yang</i>	
On an Integrated Mapping and Scheduling Solution to Large-scale Scientific Workflows in Resource Sharing Environments	49
<i>Daqing Yun, Qishi Wu, Yi Gu, Xiyang Liu</i>	
MobiSIM: A Simulation Library for Resource Prediction of Smartphones and Wireless Sensor Networks	57
<i>Markus Buschhoff, Jochen Streicher, Björn Duszka, Christian Wietfeld, Olaf Spinczyk</i>	
Accurate and Effective Algorithm for Estimating the Reliability of Digital Combinational Circuits	65
<i>Walid Ibrahim</i>	
Parallel Microscopic Simulation of Metropolitan-scale Traffic	73
<i>Ricardo Fernandes, Fausto Vieira, Michel Ferreira</i>	
Integration of Test-Driven Agile Simulation Approach in Service-Oriented Tool Environment	81
<i>Vitali Schneider</i>	
Performance Analysis of Sampling-based Turbo Coded NCQFSK for Image Data Transmission	88
<i>Junghwan Kim, Pooja Raorane, Mona Nasser, Mansoor Alam</i>	
On Learning How to Plan Content Delivery Networks	93
<i>Moisés Rodrigues, André Moreira, Ernani Azevêdo, Marcio Neves, Djamel Sadok, Arthur Callado, Josilene Moreira, Victor Souza</i>	
Optimizing Cross Traffic with an Adaptive CDN Replica Placement Strategy	101
<i>Moises Rodrigues, André Moreira, Marcio Neves, Ernani Azevêdo, Djamel Sadok, Arthur Callado, Victor Souza</i>	
Author Index	