

# **18th International Conference on Harbor, Maritime and Multimodal Logistics Modeling and Simulation (HMS 2016)**

Held at the 13th International Multidisciplinary Modeling and Simulation Multiconference (I3M 2016)

Larnaca, Cyprus  
26-28 September 2016

## **Editors:**

**Michael Affenzeller  
Francesco Longo  
Yury Merkuryev**

**Agostino G. Bruzzone  
Miquel Angel Piera**

ISBN: 978-1-5108-3079-0

**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© (2016) by CAL-TEK S.r.l.  
All rights reserved.

Printed by Curran Associates, Inc. (2016)

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

CAL-TEK S.r.l.  
Via Umberto Nobile 80  
87036 Rende (CS)  
Italy

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

[info@cal-tek.eu](mailto: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: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## Index

<b>Simulation research on seaport fairway capacity and its promotion measure: a case study of Jingtang port area in China</b> Q. Tian, Z. Guo, W. Wang, Y. Peng	1
<b>Discrete event system conceptual modelling for a logging company</b> P. Mensah, Y. Merkuryev, J. Pecherska	8
<b>An efficient constraint programming model for cooperative flight departures</b> N. Schefers, J. J. Ramos González, J. Nosedal-Sánchez	13
<b>Simulating the impact of inter-regional rail disruptions</b> C. Fikar, M. Gronalt	23
<b>An information fractal for supply network inventory optimisation</b> S. M. Saad, R. Bahadori	28
<b>Assessing service quality improvement through horizontal cooperation in last-mile distribution</b> A. Serrano-Hernandez, P. Hirsch, J. Faulin, C. Fikar	35
<b>Multimodal freight transport model for infrastructure analysis</b> R. Rios-Prado, D. Crespo-Pereira, A. García-Del-Valle	42
<b>Comparison between a macro and a des approach to the transport mode choice problem</b> D. Crespo-Pereira, R. Rios-Prado, Ó. De Gregorio-Vicente	50
<b>Simulation framework for testing performance of multi-UAV missions</b> E. Santana, R. Moreno, C. Sánchez, M. À. Piera	57
<b>A socio-technological approach to improve the performance of the aircraft boarding process</b> M. À. Piera, J. Nosedal-Sánchez, R. Moreno, R. Martinez, N. Alsina	63
<b>Urban logistics: the role of urban consolidation centre for the sustainability of transportation systems</b> S. Saetta, V. Caldarelli	69
<b>Pedestrian social groups modeling &amp; simulation: a state of the art</b> E. M. Cepolina, F. Menichini	76
<b>Simulating the impacts of airport closures on airline route networks</b> A. Asgary, J. Nosedal-Sánchez, A. O. Solis, F. Longo, L. E. Alessio, M. C. Curinga	86
<b>Towards an instructional design method to develop M&amp;S supported port management instructions</b> M. A. Balaban, F. Parise, T. W. Mastaglio	93
<b>Model of advanced planner for interoperable computer interactive simulation</b> A. G. Bruzzone, M. Massei, R. Di Matteo, G. Maglione	104
<b>Author's index</b>	111