Final Program of the 12th International Workshop on Applied Modelling & Simulation
October 30-31, 2019, www.liophant.org/wams
NUSS Kent Ridge Guild House, 9 Kent Ridge Drive, Singapore

WAMS2019 is organized in synergy with AsiaSim & STRATEGOS

Wednesday, October 30th
845-0900 AsiaSim & WAMS OPENING, Dalvey & Evans Rooms
0900-1000 1st Day Keynote Speeches
1000-1030 Tea/Coffee Break (WAMS included)
1030-1200 AsiaSim Best Paper Session
1200-1330 AsiaSim & WAMS Lunch (WAMS included)
1400-1730 STRATEGOS Workshop: a New Way to Succeed (Evans)
1800-1930 AsiaSim & WAMS Welcome Cocktail (WAMS included)
2100-2230 Night Drink at Long Bar, Raffles Hotel (no host)

Thursday, October 31st
0901-1000 2nd Day Keynote Speeches
1000-1030 Tea/Coffee Break (WAMS included)
1030-1200 WAMS Evans Room, Session I
   Chairs: R.Sburlati, DICCA & I.Arizona, Okayama University
Job Shop Rescheduling with Lot Splitting under Multiple Interruptions
T.Okamoto, Y.Yamagawa, I.Arizona, Graduate School of Natural Science & Technology, Okayama Univ., Japan (pg.14)
Scheduling Multiple Lift Vehicles in a Common Shaft in Automated Vehicle Storage and Retrieval Systems
A.Habl, V.Balducci, J.Fottner, Technical University of Munich, Germany (pg.39)
Simulation Modeling: Object Approach vs. Relational Approach
P.Pawlowski, Faculty of Eng.Management, Poznan Univ.of Technology, Poland (pg.61)
Ground Source Heat Pumps Cost Analysis in Moderate Climate
L.Aresti, P.Christodoulides, V.Messaritis, G.A.Florida, Cyprus Univ. of Tech. (pg.35)
Computational Investigation on Effect of Various Parameters of a Spiral Ground Heat Exchanger
L.Aresti, P.Christodoulides, A.Lazari, G.A.Florida, Cyprus Univ.of Tech.(pg.30)
1200-1330 AsiaSim & WAMS Lunch (WAMS included)
1330-1530 WAMS Evans Room, Session II
   Chairman: A.G.Bruzzone, Simulation Team & L.Aresti, Cyprus Univ.of Technology
   Strategic Engineering Models devoted to couple Simulation, Data Analytics & Artificial Intelligence in Liquid Bulk Logistics
   A.G.Bruzzone, DIME, M.Massei, SIM4Future, G.Fabbrini, M.Gotelli, Simulation Team, R.Sburlati, DICCA, Italy (pg.72)
   Proposal on Network Exploration to avoid Closed Loops
   Proposed Framework Development for E-Government implementation in Nepal
   P.Kharel, M.Sharma, Y.Shrestha, Kathmandu University DoCSE, Dhulikhel, Nepal (pg.54)
   A Novel Firefly Algorithm for Multimodal Optimization
1530-1600 Tea/Coffee Break (WAMS included)
1600-1730 WAMS Evans Room, Session III
   Chairman: A.Solis, York University, R.Cianci, DIME
Adaptive Algorithms for Optimal Budget Allocation with an Application to the Employment of Imperfect Sensors
M.Kress & R.Szcztman, NPS, USA, E.Yücesan, INSEAD, France (pg.1)
A Review of Recent Research Involving Modeling and Simulation in Disaster and Emergency Management
Adriano Solis, York University, Canada (pg.78)
A Continuous Simulation Model of the Diffusion of Toxic Gases in a Tunnel
R.Cianci, A.Alessandri, Genoa Univ., Kirill Sinelshchikov, Simulation Team, (pg.67)
Simulation of Human Pioneering on Mars
1900-2200 Gala Dinner at S.E.A. Aquarium, Resorts World Sentosa (WAMS included)

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Please note that from suggested Accommodation(Park Avenue Rochester Hotel & Suite) there is a free shuttle service to NUSS for ASIASIM & WAMS
Venues in Singapore:

**WAMS, AsiaSim & STRATEGOS Workshop**
Welcome Cocktail (WAMS Included)
@ NUS Kent Ridge Guild House, National University of Singapore, 9 Kent Ridge Drive

**STRATEGOS & WAMS Night Drink** (No Host)
@ Long Bar, Raffles Hotel
Raffles Arcade, 328 North Bridge Rd,

**WAMS & AsiaSim Gala Dinner** (WAMS Included)
@ S.E.A. Aquarium, Resorts World, 8 Sentosa Gateway, Sentosa Island

**WAMS & AsiaSim Lunches & Tea/Coffee Breaks** during the Conferences are included for attendees during October 30 & 31

Further details available on [www.liophant.org/wams](http://www.liophant.org/wams)

A special Panel and Student Competition on Complex System will be organized on 1400-1700, Friday, November 1, at James Cook University, Singapore, jointly with STRATEGOS, Genoa University, for getting an invitation please contact massei@itim.unige.it for details