

19th Asia Simulation Conference (AsiaSim 2019)
30 Oct (Wed) – 1 Nov (Fri), 2019, Singapore

(co-located with WAMS 2019)

Venue: NUSS Kent Ridge Guild House @ National University of Singapore,
 9 Kent Ridge Drive, Singapore 119241

Conference Programme

	30 Oct, Wed	31 Oct, Thu	1 Nov, Fri
0830-0845	Registration	Registration	-
0845-0900	Opening		
0900-1000	Keynote 1: The Challenges of Repeatability and Fidelity of Cyber-Physical Digital Twins	Keynote 2: Blockchain Safety and Smart Contract Simulation	Session 7: Short Paper Session I
1000-1030	Tea/Coffee Break		
1030-1200	Session 1: Best Paper Nominees	Session 4: Simulation Applications: Blockchain, Deep Learning and Cloud	Session 8: Short Paper Session II & Closing/AsiaSim2020
1200-1330	Lunch		
1330-1530	Session 2: Simulation & Modeling Methodology	Session 5: Simulation & Visualization	Industry Visit (1400-1600)
1530-1600	Tea/Coffee Break		
1600-1730	Session 3: Numerical & Monte Carlo Simulation	Session 6: Simulation Applications	
1800-2200	Cocktail Reception (1800-1930)	Conference Dinner (1900-2200)	

Opening and Keynotes: Dalvey, Evans Room

AsiaSim sessions: Dalvey Room

WAMS, Strategos: Evans Room

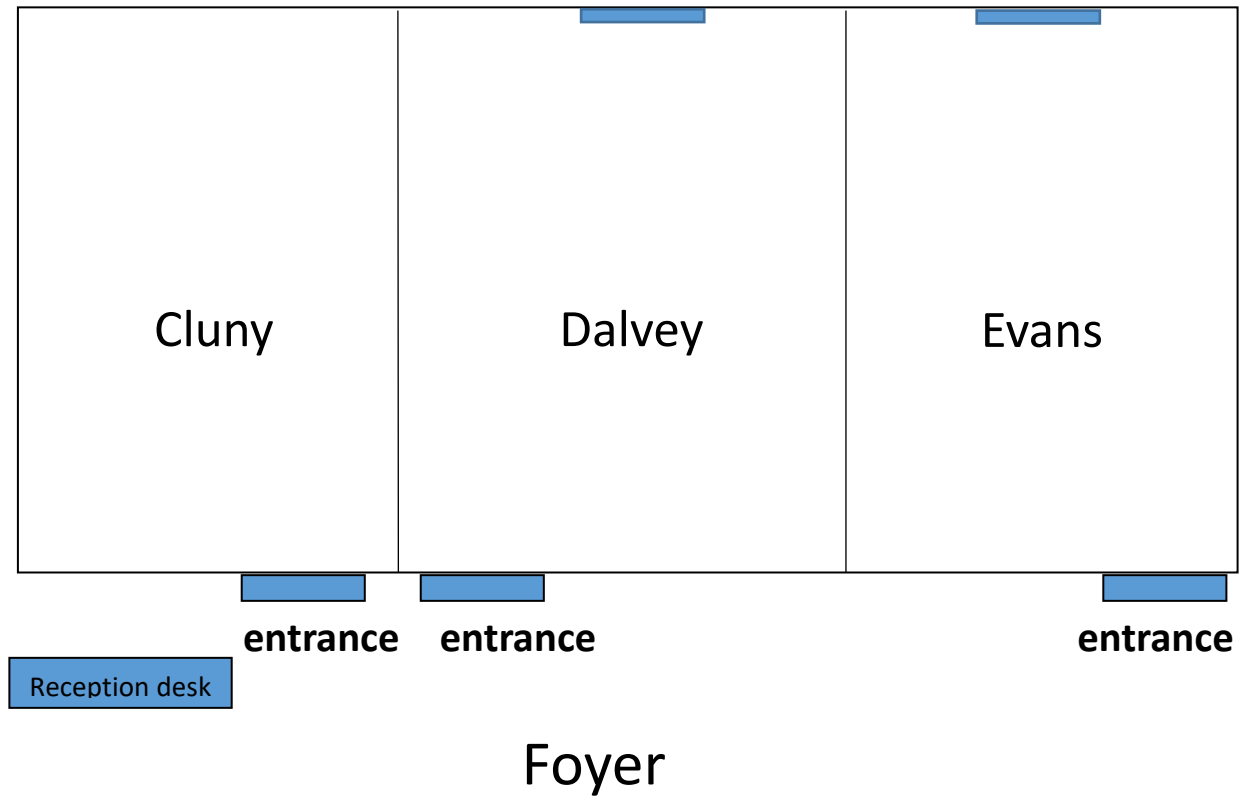
Exhibition/Demos: Cluny Room

Breaks, Lunches, Cocktail reception: Foyer

(floor plan of conference area is on next page)

AsiaSim 2019 Venue:
NUSS Kent Ridge Guild House
Level 2

AsiaSim 2019 Floor Plan



Wednesday, 30th October

- 0830-0845 Registration
- 0845-0900 Opening
- 0900-1000 **Keynote 1: The Challenges of Repeatability and Fidelity of Cyber-Physical Digital Twins**, David M. Nicol, Franklin W. Woeltge Professor of ECE, University of Illinois, Urbana-Champaign, USA
Chair: Wentong Cai
- 1000-1030 Tea/Coffee Break
- 1030-1200 **Session 1: Best Paper Nominees**
Chair: Axel Lehmann
- Digital Twin Technology for Aquaponics: Towards Optimizing Food Production with Dynamic Data Driven Application Systems*, Ayyaz Ahmed, Shahid Zulfiqar, Adam Ghandar, Yang Chen, Masatoshi Hanai, Georgios Theodoropoulos
- On Evaluating Rust as a Programming Language for the Future of Massive Agent-based Simulations*, Alessia Antelmi, Gennaro Cordasco, Matteo D’Auria, Daniele De Vinco, Alberto Negro, and Carmine Spagnuolo
- Conv-LSTM: Pedestrian Trajectory Prediction in Crowded Scenarios*, Kai Chen, Xiao Song, and Hang Yu
- 1200-1330 Lunch
- 1330-1530 **Session 2: Simulation and Modeling Methodology**
Chair: Georgios Theodoropoulos
- A Framework for Joint Simulation of Distributed FMUs*, Hang Ji, Junhua Zhou, Luan Tao, Xiao Song, Guoqiang Shi, Chao Ruan, Tingyu Lin and Xiang Zhai
- Interactive Modeling Environment based on the System Entity Structure and Model Base*, Hanwool Kim and Changbeom Choi
- A Generic Maturity Model for Verification and Validation of Modeling and Simulation Applications*, Zhongshi Wang and Axel Lehmann
- 1530-1600 Tea/Coffee Break

1600-1730 **Session 3: Numerical and Monte Carlo Simulation**

Chair: Lin Zhang

Non-local Fokker-Planck Equation of Imperfect Impulsive Interventions and its Effectively Super-convergent Numerical Discretization, Hidekazu Yoshioka, Yuta Yaegashi, Motoh Tsujimura and Masayuki Fujihara

Force Tracking Control of Nonlinear Active Suspension System with Hydraulic Actuator Dynamic, Erliana Samsuria, Yahaya Md Sam and Fazilah Hassan.

Interval Estimation of Range of Motion after Total Hip Arthroplasty Applying Monte-Carlo Simulation, Gisun Jung, Young Kim, Jongyou Choi, Younghan Song, Sunwoo Jang, Yun Bae Kim and Jinsoo Park

1800-1930 *Cocktail Reception*

Thursday, 31st October

- 0830-0900 Registration
- 0900-1000 **Keynote 2: Blockchain Safety and Smart Contract Simulation**, Jun Furuse, CEO, Dai Lambda, Inc, Scientific Director, Tezos Japan.
Chair: Yong Meng Teo
- 1000-1030 Tea/Coffee Break
- 1030-1200 **Session 4: Simulation Applications: Blockchain, Deep Learning and Cloud**
Chair: Satoshi Tanaka
- Agent-based Simulation of Blockchains*, Edoardo Rosa, Gabriele D'Angelo and Stefano Ferretti
- Robot Arm Control Method of Moving below Object Based on Deep Reinforcement Learning*, Heyu Li, Liqin Guo, Guoqiang Shi, Yingying Xiao, Bi Zeng, Tingyu Lin and Zhengxuan Jia
- Distributed 3D Printing Services in Cloud Manufacturing: A Non-cooperative Game-theory-based Selection Method*, Sicheng Liu, Ying Liu and Lin Zhang
- 1200-1330 Lunch
- 1330-1530 **Session 5: Simulation and Visualization**
Chair: Yun Bae Kim
- Visual Guide to Improving Depth Perception in See-Through Visualization of Laser-Scanned 3D Point Clouds*, Kyouma Nishimura, Liang Li, Kyoko Hasegawa, Atsushi Okamoto, Yuichi Sakano and Satoshi Tanaka
- Realizing Uniformity of 3D Point Clouds based on Improved Poisson-Disk Sampling*, Yuto Sakae, Yukihiro Noda, Liang Li, Kyoko Hasegawa, Satoshi Nakada and Satoshi Tanaka
- Effect of Multiple Iso-surfaces in Depth Perception in Transparent Stereoscopic Visualizations*, Daimon Aoi, Kyoko Hasegawa, Liang Li, Yuichi Sakano and Satoshi Tanaka
- 3D Transparent Visualization of Relief-type Cultural Heritage Assets based on Depth Reconstruction of Old Monocular Photos*, Jiao Pan, Liang Li, Hiroshi Yamaguchi, Kyoko Hasegawa, Fadjar I. Thufail, Bramantara and Satoshi Tanaka
- 1530-1600 Tea/Coffee Break

1600-1730 **Session 6: Simulation Applications**

Chair: Gabriele D'Angelo

Tolerance Coefficient based Improvement of Pedestrian Social Force Model,
Ruiping Wang, Xiao Song, Junhua Zhou and Xu Li

Capturing Human Movements for Simulation Environment, Chengxin Wang,
Muhammad Shalihin Bin Othman and Gary Tan

*Simulation Model Selection Method based on Semantic Search in Cloud
Environment,* Siqi Xiong, Feng Zhu, Yiping Yao and Wenjie Tang

1900-2200 *Conference Dinner @ S.E.A. Aquarium, Resorts World Sentosa*

Friday, 1st November

0900-1000 **Session 7: Short Paper Session I**

Chair: Liang Li

Research on New Generation of Multi-domain Unified Modeling Language for Complex Products, Lin Zhang, Li-Yuanjun Lai and Fei Ye

An Improved Grey Relational Analysis Method for Model Validation, Ke Fang, Yuchen Zhou and Ju Huo

Resource Optimisation in New Hospital Central Kitchen Design – A Discrete Event Simulation Approach, Kian Ann Chan, Mack Jia Jia Pan, Beng Tee Chua, Xiu Ming Hu, and Malcolm Yoke Hean Low

1000-1030 Tea/Coffee Break

1030-1110 **Session 8: Short Paper Session II**

Chair: Gary Tan

Prototype Development of the Real-time Quadrotor UAV Simulation in Litmus-RT, Muhammad Faris Fathonji, Yong-Il Jo and Kyong-Hoon Kim

Research on the Secondary Development Method of Finite Element Analysis Module of SIEMENS NX, Lin Wang, Zhiqiang Li, Chenli Deng, and Jialiang Sun

1110-1130 Closing & AsiaSim 2020

1200-1330 Lunch

1400-1600 Industry Visit

Getting to NUSS Kent Ridge Guild House

APPENDIX 1: VENUE ACCESS

From Ayer Rajah Expressway (AYE), exit and go onto Clementi Road towards NUS. Turn left into NUS Entrance B and turn right onto Kent Ridge Drive at the first junction. NUSS Kent Ridge Guild House (KRGH) is located along Kent Ridge Drive.

LOCAL DELEGATES DRIVING TO KRGH

Parking charges at Car Park 15		
Day of Week	Operation Hours	Charges (per minute)
Monday to Friday	0830 - 1930	0.0214
Saturday	0830 - 1700	0.0214
Free parking at all other times		

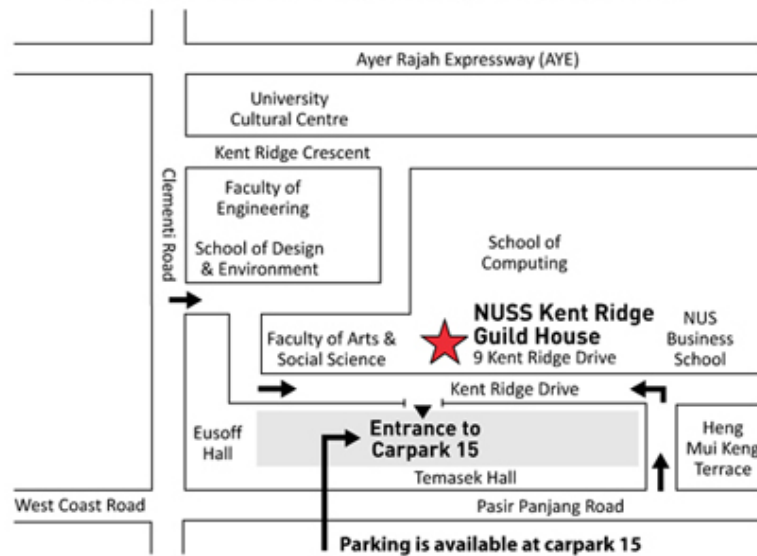
Car park coupons for parking at NUS Car Park 15 are available at **\$3.60** (up to 4 hours parking) and **\$4.80** (all-day parking) from our reception counter, Monday to Friday, Saturday before 5pm.

Enjoy free parking on Saturday after 5pm, Sunday and public holidays!
NUS Carpark 15 is conveniently located just across the road from KRGH.

SHUTTLE BUS A1 TRAVEL ROUTE

Kent Ridge MRT Station → NUH → LT 29 → University Hall → Opposite Staff Club → Yusof Ishak House → Central Library → LT 13 → AS 5 (**Stop to alight**)

Map of Kent Ridge Guild House | 9 Kent Ridge Drive | Singapore 119241



- BY BUS**
 Kent Ridge Terminal : 10, 33, 95, 151, 151E, 189, 200
 Heng Mui Keng Terrace : 10, 30, 30e, 51, 143, 183, 188, 200
 Bus Shuttle Service : A1, B, D2, BTC1
- BY MRT**
 Nearest Station: Kent Ridge
- BY CAR**
 Park at carpark 15 from Clementi Road / Pasir Panjang Road

Visit the following website for the direction guide to NUSS Kent Ridge Guild House using public transport.
<http://www.pathwaze.org/guides/nusskr/>