



### Welcome to LOGMS 2019!

This conference runs from August 14-16 at Shaw Foundation Alumni House and Innovation 4.0 Building, National University of Singapore. The goal is to provide a forum for participants from universities and industries to exchange ideas on the latest technology trends, research developments, and practical applications in maritime systems and urban logistics.

We would like to express our gratitude to you in joining us here at LOGMS 2019, and we wish you a fruitful trip in Singapore.



Associate Professor LEE Loo Hay LOGMS 2019 Programme Chair

#### Organised by:



Centre of Excellence in Modelling and Simulation for Next Generation Ports Faculty of Engineering



Maritime Energy & Sustainable Development Centre of Excellence



Centre for Next Generation Logistics Faculty of Engineering



Centre for Maritime Studies

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#### **LOGMS 2019 PROGRAMME**

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	ost: Prof. Jasmine Siu Lee Lam (1 KeyNote 3 - Prof. Chelst Topic: "Current Developments	ea White (Georgia Tech)	
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	TEA BREAK		
Auditorium)	S2 (Basil Room)	S3 (Lemongrass Room)	S4 (Clove Room)
trial Session: Open Source in ne and Logistics Systems	Optimization Studies in Port Operations (Invited Session:	Operations Analytics and Optimization for Smart Logistics in Industries (Invited Session: Lixin Tang,	Shipping Network - Part 1 (Chair: Michael Bell)
	Auditorium) trial Session: Open Source in the and Logistics Systems	TEA BREAK  Auditorium)  S2 (Basil Room)  trial Session:  Open Source in the and Logistics  Systems  Optimization Studies in Port  Operations (Invited Session:	Auditorium)  S2 (Basil Room)  S3 (Lemongrass Room)  trial Session:  Open Source in the and Logistics  Operations  Operations  Operations  Operations  Optimization Studies in Port  Operations  Optimization for Smart  Logistics in Industries

(Bus will move out from Shaw Foundation Alumni House at 17:25hrs)

15th	1 Aug 2019 (Thur), 09:00-16:30,	ternational Conference on Log Shaw Foundation Alumni House		, Singapore 119244
	S1 (Lemongrass Room)	S2 (Thyme Room)	S3 (Clove Room)	S4 (Basil Room)
T2 9:00 - 10:20	New Algorithms for Vehicle Routing Problems in Urban Transportation (Invited Session: Zhenzhen Zhang, Zhou Xu)	Optimization for Port and Shipping Operations - Part 1 (Invited Session: Hongtao Hu, Jun Yuan)	Simulation Modelling, Optimization and Applications - Part 1 (Invited Session: Hui Xiao, Siyang Gao)	Student Paper Competition Judges: Michael Bell, Chun-Hung Chen, Wai Kin Chan Host: Qitong Zhao
		TEA BREAK		
T3 10:40 - 12:00	New Solution Methods for Optimization Problems in Maritime Applications (Invited Session: Jun Xia, Zhou Xu)	Optimization for Port and Shipping Operations - Part 2 (Chair: Chenhao Zhou)	Simulation Modelling, Optimization and Applications - Part 2 (Chair: Haobin Li)	Regular Paper Competition Judges: Rommert Dekker, Kap Hwan Kim, David Goldsman Host: Weizhi Liu
		LUNCH		
T4 13:30 - 14:50	New Robust Optimization Models and Methods for Logistics and Supply Chain Management (Invited Session: Liang Xu, Zhou Xu)	Optimization for Port and Shipping Operations - Part 3 (Chair: Lu Zhen)	Logistic & Manufacturing - Part 1 (Chair: Xiangtong Qi, Yifu Li)	Behavior Studies of Shipping Companies (Chair: Tae-Woo Lee)
		TEA BREAK		
T5 15:10 - 16:30	New Trends in Maritime Industry - Part 1 (Invited Session: Jasmine Siu Lee Lam)	Optimization for Port and Shipping Operations - Part 4 (Chair: Xinjia Jiang)	Logistic & Manufacturing - Part 2 (Chair: Sebastian Blumentritt)	Shipping Network - Part 2 (Chair: Camill Harter)
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:	(Day 3) 9th International Conference on Log 16th Aug 2019 (Fri), 09:00-13:30, Innovation 4.0 Building (Leve	•			
	S1 (Seminar Room)	S2 (Conference Room)			
T6 9:00 - 10:20	New Trends in Maritime Industry - Part 2 (Chair: Chrysostomos Stylios)	Optimization for Port and Shipping Operations - Part 5 (Chair: Yi Tao)			
TEA BREAK					
T7 10:40 - 12:00	Simulation Modelling, Optimization and Applications - Part 3 (Chair: Wei Zhang)	<b>Logistic &amp; Manufacturing - Part 3</b> (Chair: Rong Zhou)			
	CLOSING CEREMONY (12:10 - 12	:30, Seminar Room)			
LUNCH					
	INDUSTRIAL VISIT: PORT TO (Bus will move out from Innovation 4.0				

#### **LOGMS 2019 PARALLEL SESSIONS**

T1 , 14 August 2019 (15:50 – 17:10 hrs) Location: S1 (Auditorium) / S2 (Basil Room) / S3 (Lemongrass Room) / S4 (Clove Room)			
Session	s/n	Paper	Authors
S1	1	Introduction to .NET Open Source Ecosystem	Muhammad Riza Marhaban
Industrial Session: .NET Open Source in Maritime and Logistics Systems	2	Object-Oriented Modelling and Problem Solving	Chun Lin Goh
(Chair: Muhammad Riza Marhaban)	3	Launch of O2DES.NET v3.x	Haobin Li
S2	1	A Simulation Study of Storage Policies in Container Terminal with a Case Study: Busan Port Terminal	Henokh Yernias Fibrianto, Bong- Gown Kang, Soondo Hong, Kap Hwan Kim, Annika Marbach, Hans- Dietrich Haasis, Tobias Buer
	2	Simultaneous Allocation of Berth and Quay Cranes with Consideration of Vessel Priority	Chulung Lee, Sung Won Cho
Optimization Studies in Port Operations (Invited Session: Kap Hwan Kim)	3	Yard Crane Deployment based on Workload Estimation	Annika Marbach, Hans-Dietrich Haasis, Henokh Yernias Fibrianto, Soondo Hong, Tobias Buer
	4	Dispatching Policy for Yard Tractors in a Horizontal Type Container Terminal	Jaekwang Kim, Taekwang Kim, Jeongmin Kim, Hyunsoo Cho, Kwang Ryel Ryu, Jeong Hoon Choi
83	1	Unidirectional Quay Crane Scheduling Problem with Vessel Stability Consideration	Defeng Sun, Lixin Tang, Roberto Baldacci
	2	A Multi-Objective Differential Evolution Algorithm to a Production Planning Problem	Yun Dong, Lixin Tang
Operations Analytics and Optimization for Smart Logistics in Industries (Invited Session: Lixin Tang, Defeng Sun)	3	Scheduling the Operations of a Double-Load Crane with Time Window in Slab Yard	Guodong Zhao, Lixin Tang
	4	Locomotives Scheduling of Molten Iron Transportation to Minimize the Energy Consumption	Baobin Huang, Lixin Tang, Roberto Baldacci, Defeng Sun
	5	Reinforcement Learning for the Dynamic Vehicle Scheduling in Mining Industry	Fengyuan Shi
S4	1	Analysis of the World Container Shipping Network by Spanning Tree and Gravity Model	Michael Bell, Kam-Fung Cheung, Satoshi Sugiura, Panagiotis Angeloudis, Jing-Jing Pan, Fumitaka Karuchi
	2	Green Urban Freight Distribution Network Design Under Uncertainty	Mengtong Wang, Michael Bell, Lixin Miao, Jun Li
Shipping Network - Part 1 (Chair: Michael Bell)	3	The Impact of Indirect Costs on Routing Decisions in Hinterland Intermodal Network	Elham Jelodari Mamaghani, Yann Bouchery
(Camar Andraw Dear)	4	Solving Winner Determination Problems in Intermodal Transport with Evolutionary Algorithms	Wai Peng Wong, Chen Wei Lee, Loo Hay Lee

 $T2~,15~August~2019~~(09:00-10:20~hrs)\\ Location:~S1~~(Lemongrass~Room)~/~S2~~(Thyme~Room)~/~S3~~(Clove~Room)~/~S4~~(Basil~Room)$ 

Escation: 51 (Editionigrass Room) / 52 (Thylic Room) / 55 (Clove Room) / 54 (Editionigrass Room)			
Session	s/n	Paper	Authors
S1	1	An Exact Method for the Vehicle Routing Problem with Consistency Requirements	Jun Xia, Kai Wang, Lu Zhen, Roberto Baldacci, Shuaian Wang
New Algorithms for Vehicle Routing Problems in Urban Transportation	2	Robust Data-Driven Vehicle Routing with Time Windows	Yu Zhang, Zhenzhen Zhang, Andrew Lim, Melvyn Sim
(Invited Session: Zhenzhen Zhang, Zhou Xu)	3	A Hybrid Algorithm for the Unilateral Transportation Problem (UTP)	Jiliu Li, Hu Qin, Huaxiao Shen, and Zhou Xu
S2	1	Optimization of Loading Clusters for Uncertain Loading Sequence	Hang Yu, Junliang He, Yingen Ge, Caimao Tan
Ontimization for Port and	2	An MIP Method for Multi-Unit Cyclic Schedule Problem of Multi-Cluster tools with Residency Constraints	Zhu Wang, Hongtao Hu
Optimization for Port and Shipping Operations - Part 1 (Invited Session: Hongtao Hu, Jun Yuan)	3	An improved Benders decomposition method for stochastic yard template planning in container terminals	Jiao Mo, Hongtao Hu, Lu Zhen
	4	Fleet size and composition under demand uncertainty for LNG transportation	Lina Zan, Jun Yuan, Xunpeng Shi, Junliang He
83	1	Efficient Subset Selection for Multi-objective Simulation Optimization Problems	Hui Xiao, Zichun Wang, Loo Hay Lee
Simulation Modelling, Optimization and Applications - Part 1 (Invited Session: Hui Xiao, Siyang Gao)	2	An Object-Oriented Analysis and Design for Industrial Adoption of Simulation Based Optimization Solutions	Haobin Li, Riza Marhaban Muhammad, Weizhi Liu, Xiao Jin
	3	Multifidelity Optimization to Enable Real Time Control of Large Scale Dynamical Systems	Jie Xu, Giulia Pedrielli, Chun Hung Chen, Loo Hay Lee, Jianqiang Hu
	4	A Novel Approximated Optimal Computing Resource Allocation Inspired by Brain Storm Optimization	Yaping Fu, Hui Xiao, Min Huang
S4	1	Space Allocation Problem in Transhipment Container Terminals that Accounts for Container Reshuffling	Wencheng Wang, Chenhao Zhou
Student Paper Competition Judges: Michael Bell,	2	Dual-Channel Sale Strategy of Shipping Supply Chain Considering the Oversell Behaviour of Liner Company	Heying Sun, Qingcheng Zeng, Jasmine Siu Lee Lam
Chun-Hung Chen, Wai Kin Chan Host: Qitong Zhao	3	The Stochastic Container Relocation Problem Under a Flexible Service Policy Considering Truck Waiting Time	Yuanjun Feng, Dongping Song, Dong Li, Qingcheng Zeng

 $T3~,15~August~2019~~(10:40-12:00~hrs) \\ Location:~S1~~(Lemongrass~Room)~/~S2~~(Thyme~Room)~/~S3~~(Clove~Room)~/~S4~~(Basil~Room)$ 

		_emongrass Room) / S2 (Inyme Room) / S3 (Clove Room) / S4	<u> </u>
Session	s/n	Paper	Authors
S1	1	Emergency Evacuation Routing From the Passenger Ship	Chen Li, Chi To Ng, T.C. Edwin Cheng
New Solution Methods for	2	The Drone Routing Problem for Regular Monitoring in an Emission Control Area	Silong Zhang, Jun Xia
Optimization Problems in Maritime Applications (Invited Session: Jun Xia,	3	Robust Ship Fleet Deployment with Shipping Revenue Management	Xiaofan Lai, Fan Wang, Kai Wang
Zhou Xu)	4	A Simultaneous Column-and-Row Generation Approach to Liner Shipping Network Design	Zhou Xu, Jun Xia, Roberto Baldacci
S2	1	Simulation and Optimization of Container Stacking on the Floating Port	Shuhong Wang, Wei Zhang
	2	Branch and Price Algorithm for the Integrated Berth Allocation and Yard Assignment Problem in Bulk Cargo Port	Jiefu Yang, Jingjing Zhao, Guodong Zhao
Optimization for Port and Shipping Operations - Part 2 (Chair: Chenhao Zhou)	3	Facility Planning and Operation Strategy for Battery-Powered AGV in Automated Container Terminals	Ning Ma, Chenhao Zhou
	4	Reliable Cost-Efficient Flows in Stochastic Time-Varying Networks	Alberto GiuDici, Tao Lu, Clemens Thielen, Rob Zuidwijk
83	1	An Exploration of Quantum Computing with Q-Sharp for Stochastic Simulation and Optimization	Riza Marhaban Muhammad, Haobin Li, Weizhi Liu
Simulation Modelling, Optimization and Applications - Part 2 (Chair: Haobin Li)	2	Exploiting Digital Twinning Capabilities for Port Resilience Evaluation	Jie Xu, Weiwen Zhou, Elise Miller Hooks, Chun-Hung Chen, Chenhao Zhou, Loo Hay Lee, Ek Peng Chew
	3	Developing Resource-Constrained Queues (RCQ) as a New Paradigm for the Activity-Based Discrete-Event Simulation	Haobin Li, Kundu Kaustav, Vanga Ratnaji, Sathishkumar
	4	Matching Anonymized Individuals with Errors for Service Systems	Wai Kin Chan
S4	1	Effects of Supply Chain Discounts on Optimal Capacity Utilization and Risk on Ro-Ro Shipping	Thalis Zis
Regular Paper Competition Judges: Rommert Dekker, Kap Hwan Kim,	2	Logic-Based Benders Decomposition Approach for the Multi-Vehicle Production Routing Problem with Order-Up-to-Level Policy	Zhenzhen Zhang, Zhixing Luo, Roberto Baldacci, Andrew Lim
David Goldsman Host: Weizhi Liu	3	Rate-Optimal Contextual Ranking and Selection	Siyang Gao, Jianzhong Du, Chun- Hung Chen

 $T4~,15~August~2019~~(13:30-14:50~hrs) \\ Location:~S1~~(Lemongrass~Room)~/~S2~~(Thyme~Room)~/~S3~~(Clove~Room)~/~S4~~(Basil~Room)$ 

	`	2. Clove Room, 7.32 (Thylic Room) 7.33 (Clove Room) 7.34	
Session	s/n	Paper	Authors
SI	1	Conflict-Robust Optimization Approach to Resource Assignment Problems with Applications in Logistics Management	Jinjia Huang, Fan Wang, Zhou Xu
New Robust Optimization	2	Approximation Methods for Chance Constrained Combinatorial Optimization	Liang Xu, Zhou Xu, Zhuoyu Long
Models and Methods for Logistics and Supply Chain Management (Invited Session: Liang Xu,	3	Robust Data-driven Approach for Newsvendor Problem with Non-Parametric Information	Yi Zheng, Liang Xu, Li Jiang
Zhou Xu)	4	Scheduling Problems in Flexible Systems	Xiangtong Qi
S2	1	Liner Shipping Service Planning Under Sulfur Emission Regulations	Shuaian Wang, Dan Zhuge, Lu Zhen, Chung-Yee Lee
Optimization for Port and Shipping Operations - Part 3 (Chair: Lu Zhen)	2	Liner Shipping Disruption Management in Practice: Generating Recovery Plans for Vessels and Cargo	David Franz Koza, David Pisinger, Grzegorz Siekaniec, Emil Sokoler
	3	Recoverable Robustness Considering Carbon Tax in Weekly Berth and Quay Crane Planning	Qian Sun, Lu Zhen
	4	Oil Export Destination Choice: A Machine Learning Approach	Haiying Jia, Roar Os Adland, Yuchen Wang
S3	1	Research Trends in Warehousing Order Picking Systems	Vedpal Arya, Yuan Wang, Loo Hay Lee
	2	Dynamic Human-Robot Collaborative Picking Strategies	Kaveh Azadeh, Debjit Roy, Rene De Koster
Logistic & Manufacturing - Part 1 (Chair: Xiangtong Qi, Yifu Li)	3	Dynamic Correlated Storage Assignment in Semi-Automated Warehouses	Masoud Mirzaei, Rene de Koster, Nima Zaerpour
	4	Experience-based Territory Planning and Vehicle Dispatching with Variable Demand and Driver Present Condition	Yifu Li, Chenhao Zhou, Wei Zhang, Ning Ma
S4	1	Stabilizing Slot Exchange of Ship Alliance Members Via Bargaining Theory and Non-Cooperative Game Mechanism	Eugene Wong, Allen Tai, Jasmine Siu Lee Lam, Daniel Mo
	2	Competition Between Liner Shipping Companies	Nemanja Milovanovic, Rommert Dekker
Behavior Studies of Shipping Companies (Chair: Tae-Woo Lee)	3	Competition and Collaboration Among Express Delivery Companies	Yanjie Zhou, Kap Hwan Kim
	4	Effects of Mega Container Ships on Supply Chain Performance	Nguyen Kohi Tran

 $T5~, 15~August~2019~~(15:10-16:30~hrs) \\ Location:~S1~~(Lemongrass~Room)~/~S2~~(Thyme~Room)~/~S3~~(Clove~Room)~/~S4~~(Basil~Room)$ 

Location.	51 (1	Lemongrass Room) / S2 (Thyme Room) / S3 (Clove Room) / S4	(Dusti Room)
Session	s/n	Paper	Authors
S1	1	Analyzing the Effects of Anti-Corruption Measures in the Suez Canal Using AIS Data	Roar Os Adland, Sofie Øiestad
New Trends in Maritime	2	Impact Assessment of Regulatory Governance and Regulatory Policies on Port Sustainablity Performance	Manikant Roy, Jasmine Siu Lee Lam
Industry - Part 1 (Invited Session:	3	Big Data Analytics in Maritime Logistics: Benefits and Risks for Container Flow Optimization	Nicholas Ruckert, Kathrin Fischer, Thomas Wrona, Pauline Reinecke, Hannah Pache
Jasmine Siu Lee Lam)	4	Perspectives from a Potential NSR User: A Case Study of Taiwan	Po-Hsing Tseng, Jasmine Siu Lee Lam
S2	1	The Real-Time Scheduling Method for AGV Task Assignment and Path Planning in an Automated Container Terminal	Qingcheng Zeng, Zehao Wang
	2	Hub Ports in Economic Shocks of Melting Arctic	Zhang Ran, Zhuo Sun, Yuan Gao, Zhongxing Tian, Yi Zuo
Optimization for Port and Shipping Operations - Part 4 (Chair: Xinjia Jiang)	3	ALNS for Complete Single Port Storage Planning	Rune Larsen, Dario Pacino
, J	4	Yard Crane Scheduling in a New Automated Container Terminal Design	Xinjia Jiang
83	1	Scalable Crowdsourced Delviery Planning with Probalistic Worker Mobility Patterns	Chung-Kyun Han, Shih-Fen Cheng, Hoong Chuin Lau
	2	Optimization and Disruption Management in Truck Appointment Problem	Na Li
Logistic & Manufacturing - Part 2 (Chair: Sebastian Blumentritt)	3	Logistics Markets in Developing Countries - Strategic Measures to Reduce Economic Risks	Sebastian Blumentritt
	4	Evaluation of Sustainable Supply Chain Performance Using an Integrated Approach	Rui Guo, Yuan Wang, Zhenyong Wu
S4	1	Port Entry Pattern in East Asia: Terminal Involvement and Spatial Impacts on Port Choice	Shengda Zhu, Michael Bell, Xiaowen Fu
	2	European Hinterland Container Transport as a Multiplex Network – How is Robustness Affected by the Multi-Mode and Multi-Operator Structure?	Camill Harter, Otto Koppius, Rob Zuidwijk
Shipping Network - Part 2 (Chair: Camill Harter)	3	Connectivity Improvement Strategy for the Global Shipping Network by Eigenvector Centrality	Kam-Fung Cheung, Jing-jing Pan, Michael Bell
	4	Optimization of the Indonesian Maritime Logistics Network with Butterfly Route Considerations Based on Mixed Integer Linear Programming	Armand Omar Moeis, Sonny Guo, Akhmad Hidayatno, Teuku Yuri M Zagloel, Komarudin

T6, 16 August 2019 (09:00 – 10:20 hrs)
Location: S1 (Seminar Room) / S2 (Conference Room)

Session	s/n	Paper	Authors
S1	1	The Impact of E-Collaboration on Different Supply Chain Parties: A Value-Based Management Perspective	Xiunian Zhang, Jasmine Siu Lee Lam
	2	Vessel Trajectory Prediction Using AIS Historical Data	Rezaei Somarin Aghil, Xuereb Maxime, Szu Hui Ng
New Trends in Maritime Industry - Part 2 (Chair: Chrysostomos Stylios)	3	Blockchain Applications in the Maritime Industry	Shuyi Pu, Jasmine Siu Lee Lam
(Cimin Cin Jacob made 21) note)	4	Maritime IoT Platform	Serena Albertario, Jacopo Cassina, Petros Karvelis, Chrysostomos Stylios
S2	1	Selecting Algorithms for the Efficient Solving of Large Berth Allocation Problems	Eric Sanlaville, Jakub Wawrzyniak, Maciej Drozdowski
Optimization for Port and Shipping Operations - Part 5 (Chair: Yi Tao)	2	The container fleet sizing and management problem by using combinable containers	Koichi Shintani, Rob Konings, Akio Imai
	3	A Vehicle Routing Problem Considering Order Priority in O2O E-Commerce	Tian Tian
	4	A multi-depot vehicle routing problem with order split and allocation in e-commerce logistics	Yi Tao, Changhui Lin, Lijun Wei

T7, 16 August 2019 (10:40 – 12:00 hrs)
Location: S1 (Seminar Room) / S2 (Conference Room

Location. 51 (Schimal Room) / 32 (Conference Room)				
Session	s/n	Paper	Authors	
S1	1	Digital Twins to Improve Efficiency by Forecasting Upcoming Bottle-Necks	Holger Schuett	
Simulation Modelling, Optimization and Applications - Part 3 (Chair: Wei Zhang)	2	Optimal Computing Budget Allocation for Binary Classification with Noisy Labels and its Applications on Simulation Analytics	Weizhi Liu	
	3	Coordinated Signal Control on Urban Intersection Group: A Simulation-based Optimization Approach	Jie Yang, Xin Qi, Lu Hu, Bin Zhao, Juanxiu Zhu, Yangsheng Jiang	
S2	1	International Logistics Connectivity for Chinese Inland Regions in the Belt and Road by Dry Ports	Hairui Wei	
Logistic & Manufacturing - Part 3 (Chair: Rong Zhou)	2	Scenario-Based Analysis for Energy Transition and LNG Shipping: A Case Study of China	Yuwei Yin, Jasmine Siu Lee Lam	
	3	Coordinated Optimization of the Berth and Headway of Bus Line Stations with Consideration the Influence of Congestion Propagation	Bin Zhao, Beichuan Wu, Lu Hu, Jie Yang, Juanxiu Zhu, Yangsheng Jiang	
	4	Quantify Supply Chain Vulnerability	Rong Zhou	

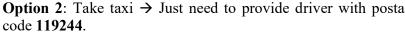
### **LOGMS Directions to Conference Venues**

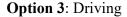
#### Day 1 & 2. Shaw Foundation Alumni House

**Option 1**: Taking public transport (refer to map on next page)

- Take MRT (Circle Line) to the Kent Ridge Station (CC24)
- Take Exit A and turn right to the bus stop 3
- Take the free NUS shuttle bus service A1
- Alight at the bus-stop AS 5 1
- Continue walking forward and SFAH is on your left

**Option 2**: Take taxi → Just need to provide driver with postal





(from Ayer Rajah Expressway, AYE)

- From the city, take Ayer Rajah Expressway (AYE) west-bound, exiting left into Clementi
- Continue down Clementi Road for around 1 km until Kent Ridge Crescent (2nd Entrance)
- Turn left into (2nd Entrance) Kent Ridge Crescent. Keep right
- Make an immediate right turn into Kent Ridge Drive
- Continue down the road for a short distance.
- Shaw Foundation Alumni House is on the left.
- Please park at car park 15.

(from Pasir Panjang Road)

- From Pasir Panjang road, turn left into Heng Mui Keng Terrace.
- Turn left into Kent Ridge Drive.
- Continue down Kent Ridge Drive for a short distance.
- Shaw Foundation Alumni House is on the right.
- Please park at car park 15.

Address: Shaw Foundation Alumni House, 11 Kent Ridge Drive Singapore 119244

Note: For directions to SFAH, you can call +65 65165775 to find out more.

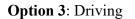


#### Day 3. Innovation 4.0 Building

**Option 1**: Taking public transport (refer to map on next page)

- Take MRT (Circle Line) to the Kent Ridge Station (CC24)
- Take Exit A, turn right and walk through the underground tunnel to the bus stop 4
- Take the free NUS shuttle bus service D2
- Alight at the bus-stop TCOMS **5**
- Cross the road and walk down the slope the Innovation 4.0 is the building on your right

**Option 2:** Take taxi  $\rightarrow$  Just need to provide driver with postal code 117602.



(from city)

- Drive along the AYER RAJAH EXPRESSWAY (AYE) towards Jurong
- Exit AYE (exit 8) and head towards SOUTH BUONA VISTA ROAD
- After passing the National University Health System building on your right, turn RIGHT into KENT RIDGE ROAD at the traffic junction
- Keep LEFT and turn LEFT into PRINCE GEORGE'S PARK road
- Continue on PRINCE GEORGE'S PARK road (down slope)
- The Innovation 4.0 Building is the LAST building at the end of slope on your RIGHT (right after the Temesak Life Sciences Lab)
- Park in any of the white carpark lots on the left of the building (Carpark 11B)

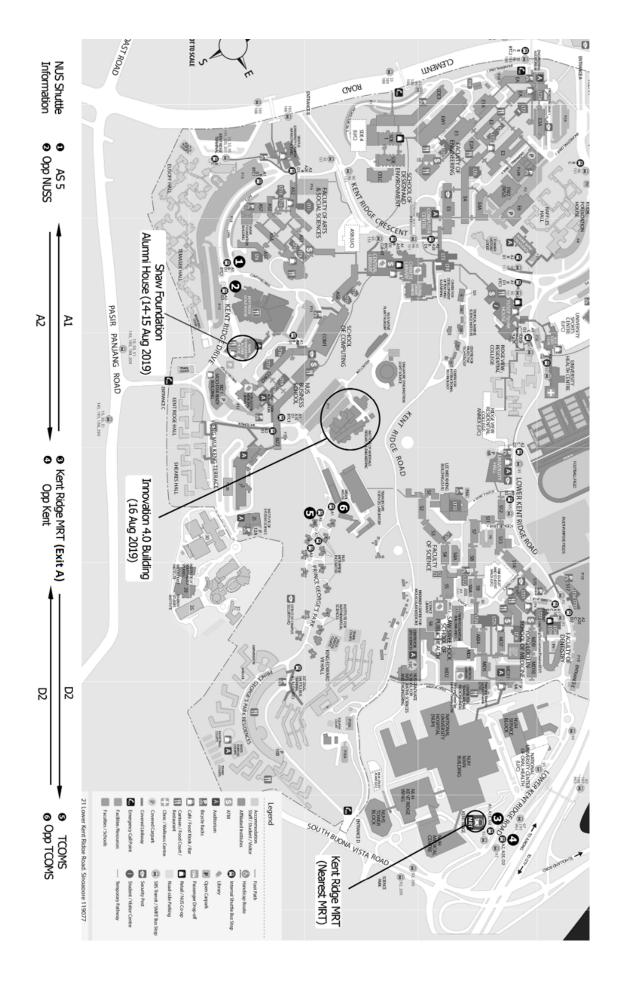
(from Pasir Panjang Road)

- From PASIR PANJANG ROAD, turn into NUS ENTRANCE C and into HENG MUI KENG TERRACE
- Keep RIGHT at the fork in front of the NUS Business School
- Immediately take the first LEFT towards PRINCE GEORGE'S PARK/RESEARCH LINK
- After passing under the NUS Business School Biz 2 Building and its open-air carpark (Carpark 11), turn left into Innovation 4.0 which the first building up the slope
- Park in any of the white carpark lots on the left of the building (Carpark 11B)

Address: Innovation 4.0, 3 Research Link, Singapore 117602

Note: For directions to Innovation 4.0 Building, you can call +65 81266358 to find out more.





# Conference Hotel Address (Park Avenue Rochester)

Address: 31 Rochester Dr, Singapore 138637

https://parkavenueintl.com/parkavenuerochester/

Nearest MRT: Buona Vista Station



**Remarks**: In Singapore, the postal code is the most accurate way to find the location of one place and the way to arrive there, strongly recommend use google map together with postal code

## **LOGMS Special Activities**

**Day 1. "Night Out":** *Satay by the Bay* 

Have nice Singaporean food with cash coupons at Satay by the Bay, and enjoy wonderful attractions nearby!!

Option 1: take our ordered bus (single way)

Origin	Destination	Departure time
SFAH	Satay by the Bay	5:30pm

**Option 2**: take public transportation (Refer to the map below)

- 1. Get to **Bayfront** MRT station (CE1/DT16).
- 2. Exit MRT from Exit C and Cross the Dragonfly Bridge into Gardens by the Bay.
- 3. Walk along the Marina waterfront and follow the direction sign along the way (Approximately 8 10 minutes walk).

#### Google map link:

 $\frac{\text{https://www.google.com.sg/maps/place/Satay+by+the+Bay/@1.2823359,103.8664049,17z/data=!3m1!}{\text{4b1!4m5!3m4!1s0x31da191cded5a1a7:0x18350fb57623ecbe!8m2!3d1.2823359!4d103.8685936?hl=en}}$ 

**Option 3**: take taxi using postal code

Address: 18 Marina Gardens Dr, #01-19, Singapore. Postal code: 018953

Enjoy the freestyle night out! You may take nearest MRT or Taxi to go back.

Nearest MRT station: **Bayfront** (CE1/DT16)



*Food:* enjoy delicious BBQ seafood, Hainanese chicken rice, Malaysian delights and many other Singaporean food at Satay by the bay for free with 10 coupons worth \$20



*Nearby attractions:* Natural scenery, garden and flower dome, light show and super tree (circled red in the map)



For shopping: Marina Bay Sands Singapore – Singapore landmark building



Day 2. Gala Dinner: Raffles Marina

**Option 1**: take our ordered bus (Highly recommended, since the dining place is quite far!)

Origin	Destination	Departure time
SFAH	Raffles Marina	4:45pm
Raffles Marina	Park Avenue Rochester Hotel	9:15pm

### Option 2: take public transportation

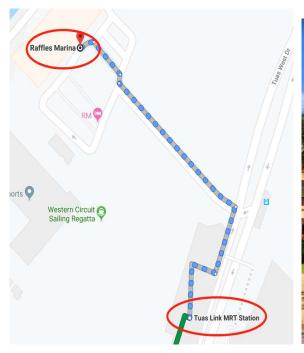
- 1. Exit from Tuas Link MRT station (EW33) Exit B and Head north on Tuas West Dr (Refer to the map below)
- 2. Turn left at the first cross and go along the road (Approximately 5 minutes walk)

#### Google map link:

 $\frac{\text{https://www.google.com.sg/maps/place/Raffles+Marina/@1.342717,103.6357907,17z/data=!4m18!1m}{9!3m8!1s0x31da08b4bba45f3d:0x4de3f7812fceed3!2sRaffles+Marina!5m2!4m1!1i2!8m2!3d1.342717!4}\\ \frac{\text{d}103.6357907!3m7!1s0x31da08b4bba45f3d:0x4de3f7812fceed3!5m2!4m1!1i2!8m2!3d1.342717!4d103}{\text{d}357907?hl=en}$ 

Option 3: take taxi (address: 10 Tuas West Dr, Singapore 638404)

Map from Tuas Link MRT station (EW33) to Raffles Marina:





### Day 3: Port Tour

Notes: Must bring along passport and conference badge for identification purpose.

Origin	Destination	Departure time
Innovation 4.0	PSA's Pasir Panjang container terminal	1:30pm
PSA's Pasir Panjang container terminal	Park Avenue Rochester Hotel	3:30pm

**Remarks**: In Singapore, the postal code is the most accurate way to find the location of one place and the way to arrive there, strongly recommend use google map together with postal code.