




# IMPact@SUTD

Impossible Made Possible by architects, catalysts and technologists

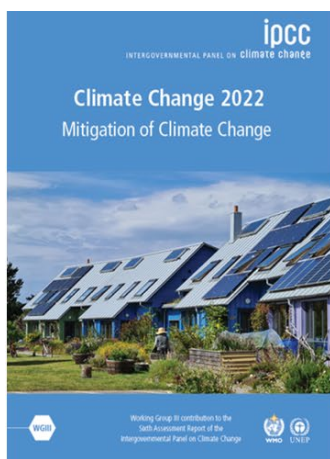
June 2022

IMPact@SUTD is a regular update featuring works by SUTD Faculty, Researchers, Students and Research Centres/Labs. We hope to create awareness of the Research by SUTD within the SUTD community and beyond. Share with us your SUTD works today so that we can include it in our next update.



## CONGRATULATIONS!

**Professor Lim Sun Sun**  
For being inducted as a Fellow of the International Communication Association.

## CONGRATULATIONS!



Associate Professor  
Lynette Cheah, ESD



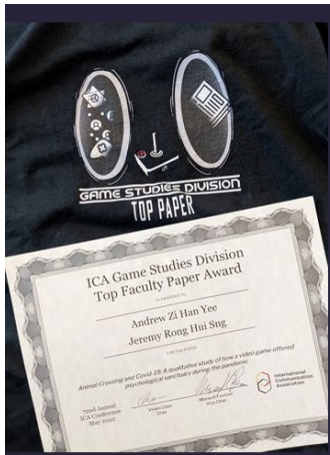
Assistant Professor  
Jin Murakami, HASS

### Lynette Cheah and Jin Murakami

For concluding the role of Review Editor of Chapter 10 and Lead Author of Chapter 8 respectively for the United Nations Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), released on April 2022.



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## CONGRATULATIONS!



Assistant Professor Andrew Yee  
Humanities, Arts and Social Sciences

### Andrew Yee

For winning ICA Game Studies Division Top Faculty Paper Award for his paper *Animal Crossing and COVID-19: A Qualitative Study Examining How Video Games Satisfy Basic Psychological Needs During the Pandemic.*



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### aiSTROM—A Roadmap for Developing a Successful AI Strategy

IEEE Access

SUTD Author: Dorien Herremans

"A total of 34% of AI research and development projects fail or are abandoned, according to a recent survey by Rackspace Technology of 1,870 companies. In this perspective paper, a new Strategic ROADmap, aiSTROM, is presented that empowers managers to create an AI strategy. A comprehensive approach is provided that guides managers and lead developers through the various challenges in the implementation process."

--- Dorien Herremans



### Satellite observations reveal thirteen years of reservoir filling strategies, operating rules, and hydrological alterations in the Upper Mekong River Basin

Hydrology and Earth System Sciences

SUTD Author: Dung Trung Vu, Thanh Duc Dang and Stefano Galelli

"The lack of data on how big dams are operated in the Upper Mekong, or Lancang, largely contributes to the ongoing controversy between China and the other Mekong countries. Here, we rely on satellite observations to reconstruct monthly storage time series for the 10 largest reservoirs in the Lancang. Our analysis shows how quickly reservoirs were filled in, what decisions were made during recent droughts, and how these decisions impacted downstream discharge."

--- Dung Trung Vu




### From Edge City to City? Planning Intentions for Edge Cities

Journal of the American Planning Association

SUTD Author: Xin Yang

"Across 10 indicators, we examined planning intentions covering 117 of 123 edge cities identified in 1991. Content analysis of plans revealed the mixed intentions for individual edge cities and for different edge cities across metropolitan regions, but also strong and consistent intentions for a large minority of edge cities we label cities in the making. Our findings underline the limited appeal of the concept to the public, politicians, and planners."

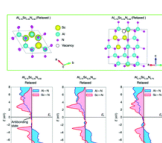
--- Xin Yang



### An electric power digital twin for cyber security testing, research and education

Computers & Electrical Engineering

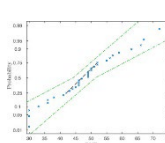
SUTD Author: Nandha Kumar Kandasamy, Sarad Venugopalan, Tin Kit Wong, and Nicholas Junming Leu



### Computational understanding role of vacancies and distortions in wurtzite ferroelectric memory materials: implications for device miniaturization

Materials Advances

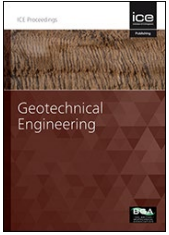
SUTD Author: Qiang Wang, Shao-Xiang Go, Lunna Li, and Desmond K. Loke



### Distribution-free P-box processes based on translation theory: Definition and simulation

Probabilistic Engineering Mechanics

SUTD Author: Kok-Kwang Phoon



### Evaluation of compression interpretation criteria for drilled shafts socketed into rocks

Proceedings of the Institution of Civil Engineers-Geotechnical Engineering

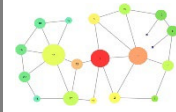
SUTD Author: Kok-Kwang Phoon



### Exploring facilitators and barriers of older adults' outdoor mobility: A walk-along study in Singapore

Journal of Transport & Health

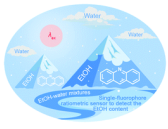
SUTD Author: Špela Močnik, Adithi Moogoor, and Belinda Yuen



### Node influence ranking in complex networks: A local structure entropy approach

Chaos Solitons & Fractals

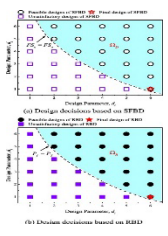
SUTD Author: Kang Hao Cheong



### Rapid quantification of the ethanol content in aqueous solutions using a ratiometric fluorescent sensor

Sensors & Diagnostics

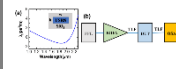
SUTD Author: Tianruo Shen, Davin Tan, Meyammai Shanmugham, and Xiaogang Liu



### Sufficient conditions for equivalence between safety factor-based and reliability-based design requirements

Computers and Geotechnics

SUTD Author: Kok-Kwang Phoon



### Supercontinuum generation in a nonlinear ultra-silicon-rich nitride waveguide

Scientific Reports

SUTD Author: Yanmei Cao, Byoung-Uk Sohn, Hongwei Gao, Peng Xing, George F. R. Chen, and Dawn T. H. Tan

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