

October 2018

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.



Sharing Space: Urban Sharing, Sharing a Living Space, and Shared Social Spaces
Space and Culture

SUTD Author: Jeffrey Kok Hui Chan

"Although 'sharing city' is by definition a "place-based" approach to understand sharing activities, and despite that spatial proximity and configuration can affect the formation of sharing practices, neither the impacts of sharing activities on space nor the different spatial attributes that condition sharing activities and behaviors, have been adequately explicated."

--- Jeffrey Kok Hui Chan



The canary in the city: indicator groups as predictors of local rent increases
EPJ Data Science

SUTD Author: Ate Poorthuis

"We adapt the concept of bioindicators, borrowed from ecology, to analysing and predicting change in urban neighborhoods. Based on 92 million geolocated Twitter records across five US cities, we define users with a high-income profile as an indicator group and show that their mobility patterns are a suitable indicator for expected future rent increases in different neighborhoods."

--- Ate Poorthuis

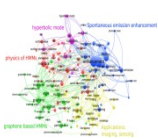


The roles of interfaces and other microstructural features in Cu/Nb nanolayers as revealed by in situ beam bending experiments inside an scanning electron microscope (SEM)
Materials Science and Engineering: A

SUTD Author: Hashina Parveen Anwar Ali, Ihor Radchenko, and Arief Budiman

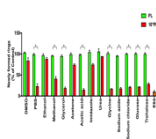
"We propose that competing mechanisms of plasticity due to the multilayered interface, grain boundaries, and other experimental factors influence the crack propagation across the nanolayers of Cu/Nb multilayered nanocomposites made by two different fabrication techniques. These observations are only possible with our in situ microfracture beam bending technique."

--- Hashina Parveen Anwar Ali



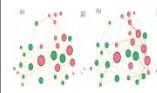
Active hyperbolic metamaterials: progress, materials and design
Journal of Optics

SUTD Author: Li Lu and Robert Edward Simpson



A reference document on Permissible Limits for solvents and buffers during in vitro antimalarial screening
Scientific Reports

SUTD Author: Renugah Naidu, Gowtham Subramanian, and Rajesh Chandramohanadas



Are the different layers of a social network conveying the same information?
EPJ Data Science

SUTD Author: Ajaykumar Manivannan, W. Quin Yow, and Roland Bouffanais



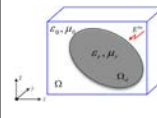
A Survey of Physics-Based Attack Detection in Cyber-Physical Systems
ACM Computing Surveys

SUTD Author: Nils Ole Tippenhauer



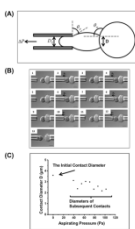
Design opportunity conception using the total technology space map
AI EDAM

SUTD Author: Jianxi Luo, Binyang Song, Lucienne Blessing, and Kristin Wood



Fast full-wave calculation of electromagnetic fields based on weak-form volume integral equation for MRI applications
Journal of Engineering-Joe

SUTD Author: Shao Ying Huang, Zu-Hui Ma, and Luo Wan



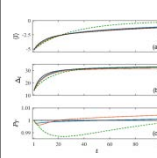
Febrile Temperature Elevates the Expression of Phosphatidylserine on Plasmodium falciparum (FCR3CSA) Infected Red Blood Cell Surface Leading to Increased Cytoadhesion
Scientific Reports

SUTD Author: Rajesh Chandramohanadas



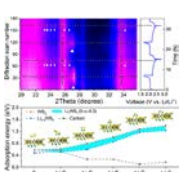
High-Efficiency High-Resolution Multimaterial Fabrication for Digital Light Processing-Based Three-Dimensional Printing
3D Printing and Additive Manufacturing

SUTD Author: Kavin Kowsari, Saeed Akbari, Dong Wang, and Qi Ge



Matrix product operators for sequence-to-sequence learning
Physical Review E

SUTD Author: Chu Guo, Zhanming Jie, Wei Lu, and Dario Poletti



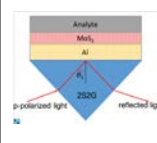
Mechanism Investigation of High-Performance Li-Polysulfide Batteries Enabled by Tungsten Disulfide Nanopetals
ACS Nano

SUTD Author: Shaozhan Huang, Ye Wang, Junping Hu, Yew Von Lim, Dezhi Kong, Meng Ding, Mei Er Pam, and Hui Ying Yang



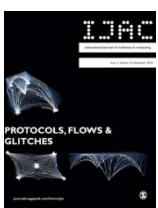
Modeling and Detecting False Data Injection Attacks against Railway Traction Power Systems
ACM Transactions on Cyber-Physical Systems

SUTD Author: David K. Y. Yau



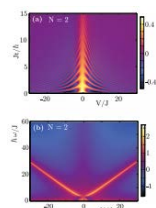
MoS₂-Based Highly Sensitive Near-Infrared Surface Plasmon Resonance Refractive Index Sensor
IEEE Journal of Selected Topics in Quantum Electronics

SUTD Author: Yi Xu and Lay Kee Ang



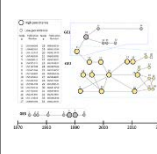
Multiagent approach to temporal and punctual urban redevelopment in dynamic, informal contexts
International Journal of Architectural Computing

SUTD Author: Trevor Ryan Patt



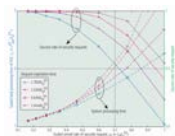
Oscillation and decay of particle current due to a quench and dephasing in an interacting fermionic system
European Physical Journal-Special Topics

SUTD Author: Kenny Choo, Ulf Bissbort, and Dario Poletti



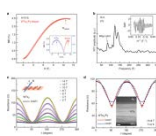
Pre-existing technological core and roots for the CRISPR breakthrough
Plos One

SUTD Author: Christopher L. Magee and Subarna Basnet



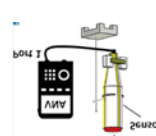
Reconfigurable Security: Edge-Computing-Based Framework for IoT
IEEE Network

SUTD Author: Ruei-Hau Hsu and Tony Q. S. Quek



Spin-momentum locking and spin-orbit torques in magnetic nano-heterojunctions composed of Weyl semimetal WTe₂
Nature Communications

SUTD Author: Weikang Wu, Zhiming Yu, and Shengyuan A. Yang



T-Shaped Patterned Microstrip Line for Noninvasive Continuous Glucose Sensing
IEEE Microwave and Wireless Components Letters

SUTD Author: Omkar and Shao Ying Huang

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