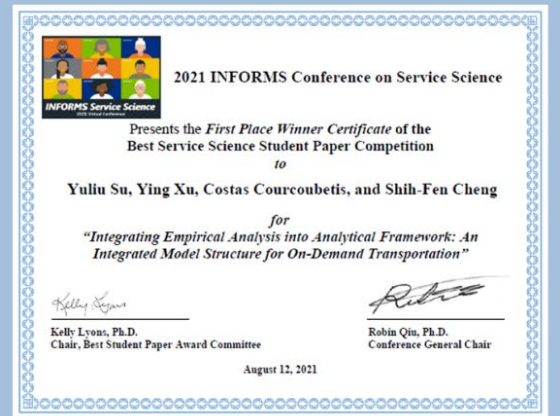


October 2021

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.

FIRST PLACE WINNER CERTIFICATE OF THE
BEST SERVICE SCIENCE STUDENT PAPER
COMPETITION IN 2021 INFORMS
CONFERENCE ON SERVICE SCIENCE.

Congratulations to Yuliu Su (SUTD Ph.D. student), Ying Xu (SUTD Faculty), Costas Courcoubetis (SUTD Faculty), and Shih-Fen Cheng (SMU Faculty) in winning first place for the written paper titled "Integrating Empirical Analysis into Analytical Framework: An Integrated Model Structure for On-Demand Transportation".



CONGRATULATIONS!

Associate Professor Lingjie Duan listed in the world's top 2% scientists by Stanford University.

Associate Professor Lingjie Duan's research focuses on the optimization and economics of computer and communication networks, especially in mobile crowdsourcing, secondary trading markets, green communication networks, and networked artificial intelligence.

With 70 publications (including 5 ESI Highly Cited Papers and over 4000 Google Scholar citations) in top-tier engineering and business journals, his accolades includes the 2016 SUTD Excellence in Research Award and the 10th Asia-Pacific Outstanding Young Researcher Award conferred by IEEE ComSoc in 2015, for contributions to "Economics and Optimization of Communication Networks".

Lingjie Duan is now serving as an Editor of IEEE Transactions on Wireless Communications, and was a Guest Editor of IEEE Journal on Selected Areas in Communications - special issue "Human-in-the-loop Mobile Networks".

Congratulations once again to Associate Professor Lingjie Duan!



Cubic Spinel XIn_2S_4 ($X = Fe, Co, Mn$): A New Type of Anode Material for Superfast and Ultrastable Na-ion Storage
Advanced Energy Materials

SUTD Authors: Dong Yan, Ke Li, Yew Von Lim, Yang Shang, Fang Daliang, Ang Lay Kee and Yang Hui Ying

"We proposed a new type of cubic spinel XIn_2S_4 ($X=Fe, Co, Mn$) anodes for superfast and ultrastable Na-ion storage. The amazing electrochemical performances are owing to the unique synergies between the X substitution at the tetrahedral sites of spinel $In_2.77S_4$ and the inherent In skeleton at the octahedral sites."

--- Yang Hui Ying



Deep learning-based design of broadband GHz complex and random metasurfaces
Ap Photonics

SUTD Authors: Zhang Tianning, Kee Chun Yun, Ang Yee Sin and Ang Lay Kee

"We explore the design of complex and random metasurfaces in the 5G frequency regime using machine learning. We found that no single universal neural network models could work well for all metasurface classes. Our work reveals the advantages and the fundamental limitations of machine learning in designing ultimately complex metasurfaces."

--- Ang Yee Sin



Twisted intramolecular charge transfer (TICT) and twists beyond TICT: from mechanisms to rational designs of bright and sensitive fluorophores
Chemical Society Reviews

SUTD Authors: Wang Chao, Chi Weijie, Davin Tan and Liu Xiaogang

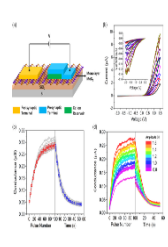
"The twisted intramolecular charge transfer (TICT) mechanism has guided the development of numerous bright and sensitive fluorophores. We reviewed the history of establishing the TICT mechanism, and systematically summarized the molecular design strategies in modulating the TICT tendency of various organic fluorophores towards different applications."

--- Liu Xiaogang



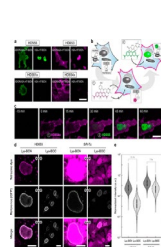
A robust output feedback strategy for liquid handling using reconfigurable robots
Automation in Construction

SUTD Authors: Mohan Rajesh Elara, Rizuwana Parween, Balakrishnan Ramalingam, Raihan Enjikalayil Abdulkader, Lim Yi



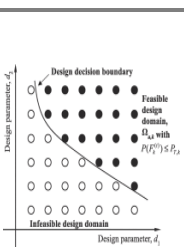
Artificial Working Memory Constructed by Planar 2D Channel Memristors Enabling Brain-Inspired Hierarchical Memory Systems
Advanced Intelligent Systems

SUTD Authors: Song Hao and Lim Kian Guan,



Bio-orthogonal Red and Far-Red Fluorogenic Probes for Wash-Free Live-Cell and Super-resolution Microscopy
Acs Central Science

SUTD Authors: Chi Weijie and Liu Xiaogang



Geotechnical reliability-based design using generalized subset simulation with a design response vector
Computers and Geotechnics

SUTD Author: Phoon Kok-Kwang



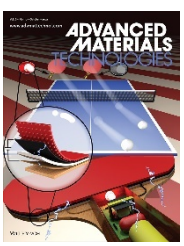
Hybrid LMMSE Transceiver Optimization for Distributed IoT Sensing Networks With Different Levels of Synchronization
IEEE Internet of Things Journal

SUTD Author: Tony Quek



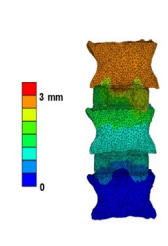
Hybrid machine learning model with random field and limited CPT data to quantify horizontal scale of fluctuation of soil spatial variability
Acta Geotechnica

SUTD Author: Phoon Kok-Kwang



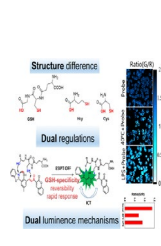
Label-Free Cell Viability Assay and Enrichment of Cryopreserved Cells Using Microfluidic Cytometry and On-Demand Sorting
Advanced Materials Technologies

SUTD Authors: Zhong Jianwei, Li Peixian, Liang Minhui and Ai Ye



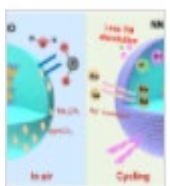
MDCT-Based Finite Element Analysis for the Prediction of Functional Spine Unit Strength-An In Vitro Study
Materials

SUTD Authors: Rayudu Nithin Manohar and Subburaj Karupppasamy



Molecular-Dimension-Dependent ES IPT Break for Specific Reversible Response to GSH and Its Real-Time Bioimaging
Analytical Chemistry

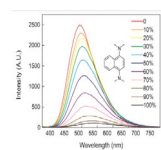
SUTD Authors: Shen Tianruo and Liu Xiaogang



Prompting structure stability of O₃-NaNi_{0.5}Mn_{0.5}O₂ via effective surface regulation based on atomic layer deposition

Ceramics International

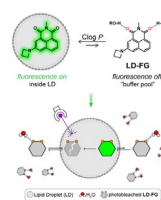
SUTD Authors: Yan Dong and Yang Hui Ying



Restriction of Twisted Intramolecular Charge Transfer Enables the Aggregation-Induced Emission of 1-(N,N-Dialkylamino)-naphthalene Derivatives

Journal of Physical Chemistry A

SUTD Authors: Abedi Syed Ali Abbas, Chi Weijie, Davin Tan, Shen Tianruo, Wang Chao, Anariba Franklin and Liu, Xiaogang



Stable Super-Resolution Imaging of Lipid Droplet Dynamics through a Buffer Strategy with a Hydrogen-Bond Sensitive Fluorogenic Probe

Angewandte Chemie-International Edition

SUTD Authors: Davin Tan and Liu Xiaogang

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