



June 2023

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.

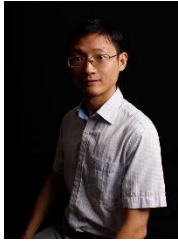


Printability of Poly(lactic acid) Ink by Embedded 3D Printing via Immersion Precipitation
ACS Applied Materials & Interfaces

SUTD Author: Hashimoto, Michinao

"In this research, we investigated key parameters to control 3D printing via immersion precipitation in embedding media. We used PLA/DCM/EtOH as a model ternary system in both Newtonian and yield-stress fluids and demonstrated fabricating 3D models with controlled internal micro-to-nano porosity."

--- [Michinao Hashimoto](#)

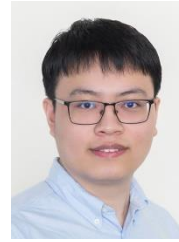


Time-Reversal-Even Nonlinear Current Induced Spin Polarization
Physical Review Letters

SUTD Authors: Hui Wang, Yue-Xin Huang, Xiaolong Feng, Huiying Liu, Shengyuan A. Yang

"We discover a new physical effect of nonlinear electric spin generation in solids. It opens a new route to manipulate magnetic storage and to design electronic devices."

--- [Shengyuan A. Yang](#)



Nothing Wasted: Full Contribution Enforcement in Federated Edge Learning
IEEE Transactions on Mobile Computing

SUTD Author: Xiong, Zehui

"To facilitate the deployment of federated learning at the edge, this work enforces the collaboration from all participated devices to guarantee that the global model is improved by their local training using all available data, where a collective extortion strategy is proposed to control the expected utilities of all participants."

--- [Zehui Xiong](#)

Applicable and Partial Learning of Graph Topology Without Sparsity Priors
IEEE Transactions on Network Science and Engineering

SUTD Authors: Yuan Yanli, Soh Dewen, Xiong Zehui, Quek Tony Q. S.

Chase or Wait: Dynamic UAV Deployment to Learn and Catch Time-Varying User Activities
IEEE Transactions on Mobile Computing

SUTD Author: Duan Lingjie

Design Progress Dashboard: Visualising a Quantitative Divergent/Convergent Pattern of Design Team Progress Through Natural Language Processing
Design Computing and Cognition '22

SUTD Authors: Matt Chiu, Arlindo Silva, Siska Lim

Energetic and configurational mechanisms to facilitate mica nanosheets synthesis by organo-ammonium cation intercalation
Computational Materials Science

SUTD Authors: Wu Shunnian, Wu Ping

Free-Electron-Driven Frequency Comb
Laser & Photonics Reviews

SUTD Author: Zhu Juan-Feng

Metal-organic frameworks for high performance desalination through thickness control and structural fine-tuning
Water Research

SUTD Author: Li Yixiang

Microphone-Based Context Awareness and Coverage Planner for a Service Robot Using Deep Learning Techniques
Mathematics

SUTD Authors: Jia Yin, Veerajagadheswar Prabakaran, Mohan Rajesh Elara, Ramalingam Balakrishnan, Yang Zhenyuan

Network-on-Chip-Centric Accelerator Architectures for Edge AI Computing
 2022 19TH INTERNATIONAL SOC DESIGN CONFERENCE (ISOCC)

SUTD Authors: ang Bo, Dong Ke, Nurul Akhira Binte Zakaria

Online Pricing Incentive to Sample Fresh Information
IEEE Transactions on Network Science and Engineering

SUTD Authors: Li Hongbo, Duan Lingjie

Quantum transport and shot noise in two-dimensional semi-Dirac system
Applied Physics Letter

SUTD Authors: Chan Wei Jie, Ang L. K., Ang Yee Sin

Selectable encapsulated cell quantity in droplets via label-free electrical screening and impedance-activated sorting
Materials Today Bio

SUTD Authors: Zhong Jianwei, Liang Minhui, Ai Ye

Voxel Substitutional Sampling: Generative Machine Learning for Architectural Design
Design Computing and Cognition '22

SUTD Author: Immanuel Koh

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