IMPact@SUTD

Impossible Made Possible by architects, catalysts and technologists

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.

GOLDEN PIN DESIGN AWARD 金點設計獎

CONGRATULATIONS!

Prof. Erwin Viray
Assoc. Prof. Yeo Kang Shua
Asst. Prof. Immanuel Koh

For winning the prestigious Golden Pin Design Award 2021* for the publication, "Forming - Unforming and 粵海清廟：建築與歷史的對話".

*Established in 1981, Golden Pin Design Award is the most influential design award in the global Chinese-speaking market, commending outstanding innovation in design.

3D printed on-chip microtoroid resonators and nested spiral photonic devices
Photonics Research

SUTD Author: Gao Hongwei, George F. R. Chen, Xing Peng, Choi Ju Won and Dawn T. H. Tan

"A monolithically integrated polymer microtoroid-waveguide system and nested double spiral waveguides are proposed and fabricated, which solves the coupling problem of microtoroid resonator and increase data capacity by utilising Space Division Multiplexing. The waveguides are also demonstrated to support 30 Gb/s NRZ and 28 Gb/s PAM 4 high-speed data."

--- Gao Hongwei

Shaping the Futures of Work: Proactive Governance and Millennials
McGill-Queen's University Press

SUTD Author: Nilanjan Raghunath

"Shaping the Futures of Work is a timely sociological exploration of the impact of technological innovations on employment. Nilanjan Raghunath proposes that stakeholders such as states, enterprises, and citizens hold equally important roles in ensuring that people can adapt, innovate, and thrive within conditions of flux."
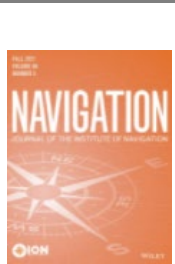
--- Nilanjan Raghunath

Versioning for parametric design exploration process
Automation in Construction

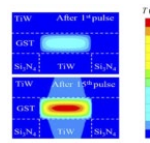SUTD Author: Verina Cristie, Sam Conrad Joyce

"Design is a complex iterative process, however existing file management for parametric design doesn't support it. To solve this we developed "GHShot" an Github like system for versioning visual programming. With web platform able to see development history of the code and 3D model, enabling fast large team developer collaboration, and fast non-technical public feedback. Link to project"
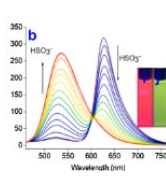
--- Sam Conrad Joyce

Adapting the Boerdijk-Coxeter helix as node configuration for GPS-denied localization in three dimensions
Navigation-Journal of the Institute of Navigation

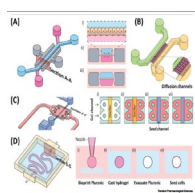SUTD Author: Alvin Goh Cheng Ann, Foong Shaohui, Alvee Ahmed and Soh Gim Song

A fast, low-energy multi-state phase-change artificial synapse based on uniform partial-state transitions
Apl Materials

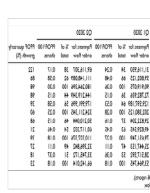SUTD Author: Go Shao Xiang, Natasa Bajalovic and Desmond K. Loke

A smart TP-FRET-based ratiometric fluorescent sensor for bisulfite/formaldehyde detection and its imaging application
Sensors and Actuators B-Chemical
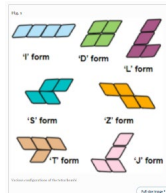
SUTD Author: Chanmungkalakul Supphachok and Liu, Xiaogang

Bridging the academia-to-industry gap: organ-on-a-chip platforms for safety and toxicology assessment
Trends in Pharmacological Sciences
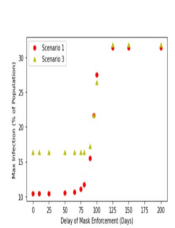
SUTD Author: Terry Ching and Michinao Hashimoto

Democratizing finance with Robinhood: Financial infrastructure, interface design and platform capitalism
Environment and Planning a-Economy and Space

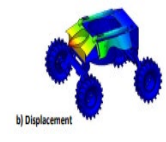SUTD Author: Gordon Tan Kuo Siong

Design and development of a reconfigurable tiling robot
Intelligent Service Robotics

SUTD Author: Rizuwana Parween, Shi Yuyao, Borusu Charan Satya Chandra Sairam and Mohan Rajesh Elara

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Dynamical Analysis of Universal Masking on the Pandemic
International Journal of Environmental Research and Public Health

SUTD Author: Brandon Tay Kaiheng, Carvalho Andrea Roby, Jodi Wu Wenjiang and Tan Da Yang

Raptor: A Design of a Drain Inspection Robot
Sensors

SUTD Author: Muthugala, M. A. Viraj J., Palanisamy Povendhan, Samarakoon S. M. Bhagya P., Padmanabha, Saurav Ghante Anantha and Mohan Rajesh Elara
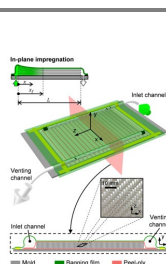
Recognizing Emotion Cause in Conversations
Cognitive Computation

SUTD Author: Soujanya Poria, Navonil Majumder, Deepanway Ghosal, Rishabh Bhardwaj, Samson Jian Yu Bai and Hong Pengfei
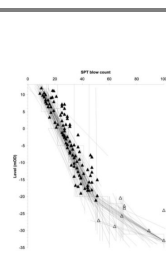

Triply degenerate point in three-dimensional spinless systems
Physical Review B

SUTD Author: Feng Xiaolong, Wu Weikang, Huang Yuexin and Yang Shengyuan A.

Void Content Minimization in Vacuum Infusion (VI) via Effective Degassing
Polymers

SUTD Author: Arlindo Silva

What is a characteristic value for soils?
Georisk-Assessment and Management of Risk for Engineered Systems and Geohazards

SUTD Author: Phoon, K. K.