

July 2019

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 Chua Chee Kai

for publishing the paper "Particle-reinforced metal matrix nanocomposites fabricated by selective laser melting: A state of the art review"* in the journal, Progress in Materials Science**.

*3D Printing is a disruptive technology. Amongst the many AM techniques is Selective Laser Melting (SLM). Significant progress has been made in understanding selective laser melting (SLM) process as well as fabrication of various materials using this technology. This paper covers the emerging research on particle reinforced metal matrix nanocomposites (MMNCs) with SLM and provides a comprehensive overview of the underlying scientific topics behind them.

**Progress in Materials Science has Impact Factor of 23.75. It publishes authoritative and critical reviews of recent advances in the science of materials and their exploitation in engineering and other applications. Authors of reviews in this journal are active leaders in materials science and have a strong scientific track record in the field of the review.



CONGRATULATIONS!

Do Bao Nguyen Doan (Math and Science Cluster)

for winning the Best Poster for the 20th Tetrahedron Symposium*.

*The Tetrahedron Symposia are the major international annual meetings and information points for reporting advances in organic, bio-organic & medicinal chemistry. For this year, over 200 researchers from well-known universities around the world are presenting their research posters. 6 posters are given the award funded by Elsevier, a famous scientific journal publisher.




Data-Driven Design Space Exploration and Exploitation for Design for Additive Manufacturing
ASME Journal of Mechanical Design

SUTD Author: Yi Xiong, Pham Luu Trung Duong, Qi Ge, Nagarajan Raghavan, and David W. Rosen

"To harness untapped potentials brought by additive manufacturing, a two-stage data-driven design framework is developed for assisting designers in searching for a set of feasible designs and eventually for one design solution in the design space which creates new products that are unique, optimal, and previously obtainable."

--- Yi Xiong



Probabilistically Robust AC Optimal Power Flow
IEEE Transactions on Control of Networked Systems

SUTD Author: Mohammadreza Chamanbaz

"In this paper, we consider alternating current optimal power flow problems in the presence of uncertain loads and (uncertain) renewable energy generators and propose a novel probabilistic strategy to optimally dispatch controllable generators such that the generation cost is minimized and all network constraints are respected."

--- Mohammadreza Chamanbaz




Vietnamese pre-schoolers' tablet use and early childhood learning: an ecological investigation
Journal of Children and Media

SUTD Author: Becky Pham and Sun Sun Lim

"Vietnamese parents perceive tablets as devices that give children an edge in educational achievement. They initiated, sustained or enforced their pre-schoolers' tablet use for early childhood learning despite the absence of supporting evidence. Worryingly too, they lacked an understanding of tablets' benefits and risks and could not exercise appropriate supervision."

--- Becky Pham and Sun Sun Lim



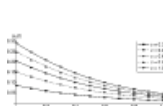
a-Rank: Multi-Agent Evaluation by Evolution
Scientific Reports

SUTD Author: Georgios Piliouras



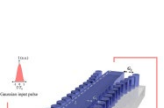
An Experimentally Validated Channel Model for Molecular Communication Systems
IEEE Access

SUTD Author: Na-Rae Kim



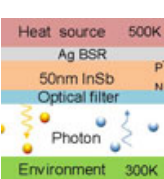
Approximate perturbative solutions of quasispecies model with recombination
Physical Review E

SUTD Author: Jin Ming Koh and Kang Hao Cheong



Bragg Soliton Compression and Fission on CMOS-Compatible Ultra-Silicon-Rich Nitride
Laser & Photonics Reviews

SUTD Author: Ezgi Sahin, Peng Xing, Dawn T. H. Tan



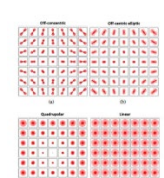
Design of an InSb thermoradiative system for harvesting low-grade waste heat
Optics Letters

SUTD Author: Xin Zhang, Yee Sin Ang, and Lay Kee Ang




Dynamics and Control of a Collaborative and Separating Descent of Samara Autorotating Wings
IEEE Robotics and Automation Letters

SUTD Author: Shane Kyi Hla Win, Luke Soe Thura Win, Danial Sufiyan, Gim Song Soh, and Shaohui Foong



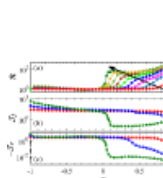
Effects of Encoding Fields of Permanent Magnet Arrays on Image Quality in Low-Field Portable MRI Systems
IEEE Access

SUTD Author: Jia Gong, Shao Ying Huang, and Zhi Hua Ren



Energy Consumption Estimation Model for Complete Coverage of a Tetromino Inspired Reconfigurable Surface Tiling Robot
Energies

SUTD Author: Arunmozhi Manimuthu, Anh Vu Le, Rajesh Elara Mohan, Prabhar Veerajagadeshwar and Ku Ping Cheng



Energy Current Rectification and Mobility Edges
Physical Review Letters

SUTD Author: Viniitha Balachandran and Dario Poletti



**Guest editorial:
focused section on
smart mobile
robotic systems in
challenging
environments**
*International Journal of
Intelligent Robotics and
Applications*

SUTD Author: Shaohui Foong



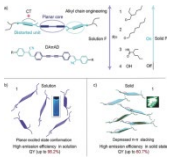
**Quantum algorithms
for training Gaussian
processes**
Physical Review A

SUTD Author: Zhikuan Zhao and Joseph F. Fitzsimons



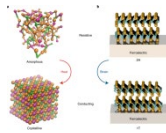
**Rindu Rustic:
Singapore Nostalgias
in Modern Malay
Prose**
*Journal of Intercultural
Studies*

SUTD Author: Bahrawi Nazry



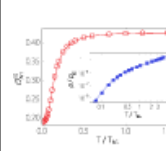
**Structural
Engineering of
Luminogens with
High Emission
Efficiency both in
Solution and in the
Solid State**
*Angewandte Chemie-
International Edition*

SUTD Author: Weijie Chi



**The changing phase
of data storage**
Nature Nanotechnology

SUTD Author: Robert E. Simpson



**Theory of the phonon
side-jump
contribution in
anomalous Hall
effect**
Physical Review B

SUTD Author: Ying Liu and Shengyuan A. Yang

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