

January 2020

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!

Associate Professor Yang Huiying

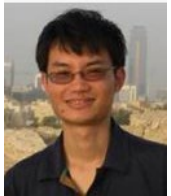
(Pillar of Engineering Product Development)

for being admitted as *Fellow of Royal Society of Chemistry (FRSC).

*The Royal Society of Chemistry (RSC) is a learned society (professional association) in the United Kingdom with the goal of "advancing the chemical sciences". The designation FRSC is given to a group of elected Fellows of the society who have made major contributions to chemistry and other interface disciplines such as biological chemistry.



Complementary C–H Functionalization Mode of Benzoylacetonitriles: Computer-Augmented Study of a Regio- and Stereoselective Synthesis of Functionalized Benzofulvenes
Organic Letters



SUTD Author: Bao Nguyen Do Doan and Richmond Lee

"Density functional theory (DFT) and experiments unravel the chemistry of Rh(III) catalysed 5-membered ring cyclization, in a departure from reported 6-membered ring closure, to form useful benzofulvenes. DFT also suggested the importance of hydroxyl group and CsOAc in mediating the regioselective 5-membered ring cyclization by forming thermodynamically stable Rh(III) intermediate."

--- Richmond Lee

Multiscale Optimal Design and Fabrication of Laminated Composites
Composite Structures



SUTD Author: Narasimha Boddeti, David W. Rosen, and Martin L. Dunn

"We present a general workflow for optimal design and fabrication of novel multiscale laminated fiber-based composites with spatially varying microstructure in each lamina of a flat or curved laminate. The framework is experimentally validated with various plate and shell structures that have potential applications in architecture, aerospace and soft robotics."

--- David W. Rosen

Quantitative Design of Bright Fluorophores and AIEgens via the Accurate Prediction of Twisted Intramolecular Charge Transfer (TICT)
Angewandte Chemie International Edition



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

"We established a reliable and generalizable computational approach for modeling Twisted Intramolecular Charge Transfer (TICT), one important photophysical mechanism. Based on this approach, we concluded a two - decade - long mechanistic debate on the TICT formation in PRODAN, and quantitatively designed bright fluorophores and AIEgens for bioimaging applications."

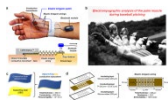
--- Xiaogang Liu

Design of protograph codes for additive white symmetric alpha-stable noise channels
IET Communications



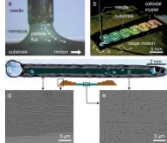
SUTD Author: Xingwei Zhong, Kui Cai, and Zhen Mei

Elastic kirigami patch for electromyographic analysis of the palm muscle during baseball pitching
NPG Asia Materials



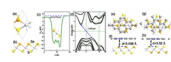
SUTD Author: Kento Yamagishi

In-Plane Direct-Write Assembly of Iridescent Colloidal Crystals
Small



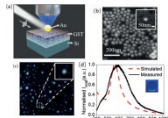
SUTD Author: Joel Tan and Joel K. W. Yang

Janus PtSSe and graphene heterostructure with tunable Schottky barrier
Applied Physics Letters



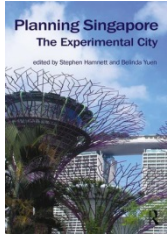
SUTD Author: Liemao Cao, Yee Sin Ang, Qingyun Wu and Ricky Ang Lay Kee

Low-Power Phase Transition of Chalcogenide Glass Using Au Nanoparticle Plasmon Resonance
Advanced Optical Materials



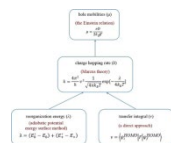
SUTD Author: Li Lu and Robert E. Simpson

Planning Singapore: The Experimental City
Routledge



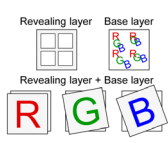
SUTD Author: Stephen Hamnett and Belinda Yuen

Positional Effect of the Triphenylamine Group on the Optical and Charge-Transfer Properties of Thiophene-Based Hole-Transporting Materials
Chemistry



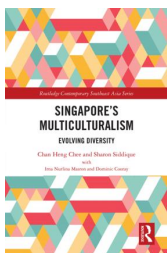
SUTD Author: Mengyao Hao and Weijie Chi

Rotation-Selective Moire Magnification of Structural Color Pattern Arrays
ACS Nano



SUTD Author: John You En Chan, Qifeng Ruan, Ray Jia Hong Ng, and Joel K. W. Yang

Singapore's Multiculturalism: Evolving Diversity
Routledge



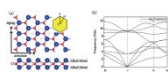
SUTD Author: Chan Heng Chee, Sharon Siddique, Inna Nurlina Masron and Dominic Cooray

Sixteen Shades of Smart: How Cities Can Shape Their Own Future
International Institute for Management Development



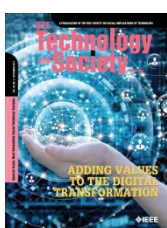
SUTD Author: Chan Heng Chee

Tunable Topological Energy Bands in 2D Dialkali-Metal Monoxides
Advanced Science



SUTD Author: Si Li and Shengyuan A. Yang

Tuning Networks for Prosocial Behavior: From Senseless Swarms to Smart Mobs
IEEE Technology and Society Magazine

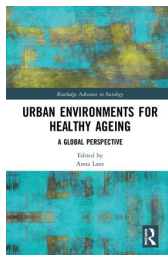


SUTD Author: Sun Sun Lim and Roland Bouffanais



**Two-Dimensional
Second-Order
Topological
Insulator in
Graphdiyne**
Physical Review Letters

SUTD Author: Xian-Lei Sheng, Cong Chen,
Huiying Liu, Zhi-Ming Yu and Shengyuan A.
Yang



**Urban Environments
for Healthy Ageing: A
Global Perspective**
Routledge

SUTD Author: Anna P Lane

**Most people say that it is the
intellect which makes a great
scientist. They are wrong: it is
character.**

---Albert Einstein

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