

July 2018

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.



**Battle of the Attack Detection Algorithms: Disclosing Cyber Attacks on Water Distribution Networks**  
*Journal of Water Resources Planning and Management*

SUTD Author: Riccardo Taormina, Stefano Galelli, and Nils Ole Tippenhauer

“The BATtle of the Attack Detection Algorithms (BATADAL) is an international competition—organized by SUTD—to compare the performance of algorithms for the detection of cyber attacks on water supply systems. In this paper, we describe the BATADAL problem, algorithms, and results, and propose new ideas for future research.”

--- Stefano Galelli



**Effects of Interface Shear Strength during Failure of Semicoherent Metal-Metal Nanolaminates: An Example of Accumulative Roll-bonded Cu/Nb**  
*Acta Materialia*

SUTD Author: Ihor Radchenko, H.P. Anwarali, Sasi Kumar Tippabhotla and Arief Budiman

“We have found how to delay fracture of metal nanocomposites made from alternating Cu and Nb layers. The crack growth across the Cu/Nb interface can be stopped when the layers are easy to slide and the composite grain size is sufficiently large.”

--- Ihor Radchenko



**Smart lighting system using ANN-IMC for personalized lighting control and daylight harvesting**  
*Building and Environment*

SUTD Author: Nandha KumarKandasamy

“With increase in demand for satisfying occupant preferences in visual comfort, the need for personalized lighting in the office space is also rising. We proposed a novel and unified method that can achieve the desired personalized settings without compromising the efficiency, with extended application to lighting accessories such as blinds.”

--- Nandha KumarKandasamy

**Almost ideal nodal-loop semimetal in monoclinc CuTeO3 material**  
*Physical Review B*

SUTD Author: Si Li, Ying Liu, Zhi-Ming Yu and Shengyuan A. Yang

**Antenna design for a smartphone with a full metal casing and a narrow frame**  
*IET Microwaves Antennas & Propagation*

SUTD Author: Shao Ying Huang

**Electrowetting on dielectric (EWOD) properties of Teflon-coated electro sprayed silica layers in air and oil media and the influence of electric leakage**  
*Journal of Materials Chemistry C*

SUTD Author: Ping Wu

**Experience Replay Using Transition Sequences**  
*Frontiers in Neurobotics*

SUTD Author: Thommen George Karimpanal and Roland Bouffanais

**Formal enantioconvergent substitution of alkyl halides via catalytic asymmetric photoredox radical coupling**  
*Nature Communications*

SUTD Author: Richmond Lee

**GPF: GMM-Inspired Feature-Preserving Point Set Filtering**  
*IEEE Transactions on Visualization and Computer Graphics*

SUTD Author: Sai-Kit Yeung

**Lightweight and Practical Anonymous Authentication Protocol for RFID Systems Using Physically Unclonable Functions**  
*IEEE Transactions on Information Forensics and Security*

SUTD Author: Prosanta Gope and Tony Q. S. Quek

**Nodal loop and nodal surface states in the Ti3Al family of materials**  
*Physical Review B*

SUTD Author: Xiaoming Zhang, Zhi-Ming Yu, Ziming Zhu, Weikang Wu, Shan-Shan Wang and Shengyuan A. Yang

**Perceptual evaluation of measures of spectral variance**  
*Journal of the Acoustical Society of America*

SUTD Author: Natalie Agus, Hans Anderson, Jer-Ming Chen, Simon Lui and Dorien Herremans

**The Characteristics of Innovative, Mechanical Products-10 Years Later**  
*Journal of Mechanical Design*

SUTD Author: Jianxi Luo and Timothy Li

**Ultra-broadband and compact graphene-on-silicon integrated waveguide mode filters**  
*Scientific Reports*

SUTD Author: Peng Xing, Kelvin J. A. Ooi and Dawn T. H. Tan

In science the credit goes to the man who convinces the world, not the man to whom the idea first occurs.

--- Sir Francis Darwin