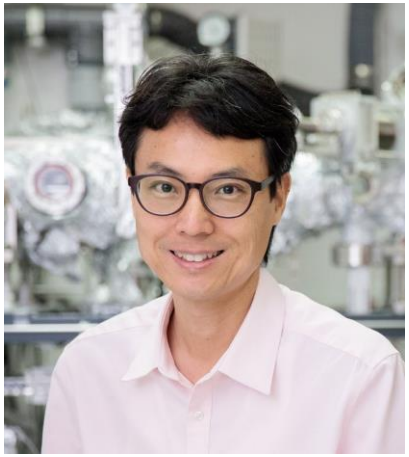
W2S Seminar
(Webinar series on Spintronics)



Topological Spintronics

Speaker:
Prof. Hyunsoo Yang
National University of Singapore

Date and time:
25.02.2021 at
11.00 am
Via
Zoom

Abstract

Layered topological materials such as topological insulators (TIs) and Weyl semimetals are a new class of quantum matters with large spin-orbit coupling. We reveal spin textures of such materials using the bilinear magneto-electric resistance (BMR) and photocurrent mapping. Topological surface states (TSS) dominated spin orbit torques are identified, and magnetization switching at room temperature is demonstrated in a topological material/ferromagnet (FM). Magnon-torque-driven magnetization switching is also demonstrated in the TI/NiO/FM devices at room temperature. In addition, topological materials can provide an alternative for rectification or frequency doubling. Looking towards the future, we hope that these studies will spark more works on harnessing spin currents at topological material/magnet interfaces and energy harvesting applications from topological materials.

If interested to attend then please visit https://www.niser.ac.in/w2s-seminar/index.php