

## SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

Website: <https://www.eng.nus.edu.sg/ece/>

**Area: Microelectronic Technologies and Devices**

**Host: Dr Dushyant Kumar**

<b>TOPIC</b>	:	<b>Study Of Charge-To-Spin Conversion Efficiency Based On Weyl Semimetals</b>
<b>SPEAKER</b>	:	<b>Ms. Liu Yakun Graduate Student, ECE Dept, NUS</b>
<b>DATE</b>	:	<b>Thursday, 18 March 2021</b>
<b>TIME</b>	:	<b>10.30AM to 11.15AM</b>
<b>WEBINAR</b>	:	<b>Join Zoom Meeting</b> <a href="https://nus-sg.zoom.us/j/89078585299?pwd=MHU3bWxoeEtMZmt3S3Fxa2RZSUFFQT09">https://nus-sg.zoom.us/j/89078585299?pwd=MHU3bWxoeEtMZmt3S3Fxa2RZSUFFQT09</a> <b>Meeting ID: 890 7858 5299</b> <b>Password: 272539</b>

### ABSTRACT

Taking advantage of the spin degree of freedom instead of electrical charges, spin-orbit torque (SOT) based memory and logic devices provide a non-volatility storage and processing opportunities with a fast operation speed. The key to the wider adoption of SOT devices is to minimize the power consumption while manipulating the magnetization. Novel materials such as Weyl semimetals with a high charge-to-spin conversion efficiency have received extensive attention as it has spin-momentum locking and a large spin polarization in both the bulk and Fermi arc surface states. In this work, the charge-to-spin conversion efficiency is studied through spin-torque ferromagnetic resonance and second harmonic techniques by fabricating Weyl semimetal/ferromagnetic bilayer structures.

### BIOGRAPHY

Liu Yakun is currently pursuing a Ph.D. in the Department of Electrical and Computer Engineering, National University of Singapore. Her research interests include Weyl semimetals and their spintronics applications.

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