

**SEMINAR ANNOUNCEMENT**

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING  
COLLEGE OF DESIGN AND ENGINEERING

Website: <https://cde.nus.edu.sg/ece>

**Area: Microelectronic Technologies & Devices (MTD)**

**Host: Dr Hua Bai**

|                |   |                                                                                                                                                                                        |
|----------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TOPIC</b>   | : | Electrical manipulation and detection of perpendicular altermagnetic order                                                                                                             |
| <b>SPEAKER</b> | : | Mr Li Zhaohui<br>Graduate Student, ECE Dept, NUS                                                                                                                                       |
| <b>DATE</b>    | : | Thursday, 8 October 2026                                                                                                                                                               |
| <b>TIME</b>    | : | 9:00AM-10:00AM                                                                                                                                                                         |
| <b>VENUE</b>   | : | Join Zoom Meeting<br><a href="https://nus-sq.zoom.us/j/82755125204?pwd=J8U4wcBA3JpAbJPmvYcy4v1FZaPdwG.1">https://nus-sq.zoom.us/j/82755125204?pwd=J8U4wcBA3JpAbJPmvYcy4v1FZaPdwG.1</a> |

**ABSTRACT**

Altermagnets, which combine antiferromagnetic-like magnetic compensation with ferromagnetic-like broken time-reversal symmetry, hold great promise for high-density and ultrafast spintronic applications. However, the detection and switching of perpendicular altermagnetic orders are fundamentally constrained by magnetic symmetry, restricting both fundamental studies and practical implementation. Here, we demonstrate robust electrical reading and deterministic switching of perpendicular altermagnetic order by designing a Dirac semimetal/altermagnet heterostructure of PtTe<sub>2</sub>/CrSb. This engineered interface enables anomalous Hall readout via the altermagnetic proximity effect and delivers efficient spin-orbit torque for manipulating the epitaxial perpendicular Néel vector in CrSb.

**BIOGRAPHY**

Zhaohui Li is currently pursuing his Ph.D. degree under the supervision of Prof. Hyunsoo Yang in the Department of ECE, NUS. His current research interests are in antiferromagnet spintronics.

<https://cde.nus.edu.sg/ece/highlights/events/>