

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

TOPIC	:	Antiferromagnetic Tunneling Junction
SPEAKER	:	Mr Li Zhaohui Graduate Student, ECE Dept, NUS
DATE	:	Friday, 12 December 2025
TIME	:	9:00AM-10:00AM
VENUE	:	Join Zoom Meeting https://nus-sg.zoom.us/j/83352000497?pwd=PQwgZo1B2fNNHG3l9zVYTjFHorDRnh.1 Meeting ID: 833 5200 0497 Passcode: 451330

ABSTRACT

Antiferromagnetic tunneling junctions provide a platform where spin dependent tunneling originates from compensated magnetic order, offering fast dynamics and resilience to magnetic fields. We built an MTJ using an altermagnet and a noncollinear antiferromagnet and systematically characterized its switching and readout behavior. The junction exhibits pronounced spin dependent tunneling and a strong signal that directly reflects the underlying magnetic configuration. These results demonstrate that combining distinct antiferromagnetic symmetries can generate robust tunneling responses and establish antiferromagnetic tunneling junctions as promising elements for future spin based information technologies.

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.

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