

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

Faculty of Engineering

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

Area: Microelectronic Technologies & Devices

Host: Dr. Zhao Shishun

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| TOPIC | : | An Introduction to Spin Hall Nano Oscillator |
| SPEAKER | : | Mr. Lei Jiayu Graduate Student, ECE Dept, NUS |
| DATE | : | Friday, 25 November 2022 |
| TIME | : | 9.00AM to 9.30AM |
| WEBINAR | : | Join Zoom Meeting https://nus-sg.zoom.us/j/86481264015?pwd=Nkx6bS9oem9WekQ0cWNiY1EvT1V1dz09 Meeting ID: 864 8126 4015 Passcode: 536592 |

ABSTRACT

Spin Hall nano-oscillator (SHNO) is a new kind of microwave signal generator. Usually, SHNOs are bilayer-structure. In the heavy metal layer, the spin Hall effect (SHE) can produce a pure spin current in the direction perpendicular to an electric current. And in the ferromagnetic layer, the spin-orbit torque (SOT) effect induced by spin current can generate auto-oscillations under certain conditions.

This talk will provide a brief overview of SHNO. In this talk, firstly we will introduce the applications of SHNO. Then, we will discuss the basic principles and oscillation behaviours of SHNO. Next, we will discuss the SHNO fabrication process and conventional measurement methods. Finally, we will summarize some initial measurement results of our SHNO samples.

BIOGRAPHY

Lei Jiayu is currently pursuing his Ph.D. degree under the supervision of Professor Hyunsoo Yang in the Department of ECE, NUS. His current research interests are in spintronics.

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