***SEMINAR ANNOUNCEMENT***

**DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING**
**Faculty of Engineering**
Website: https://www.eng.nus.edu.sg/ece/

***Area: Integrated Circuits & Embedded Systems***

***Host: Assoc Prof Heng Chun Huat***

***Lecture/Teaching Seminar***

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| **TOPIC** | : | **Introduction to Transistor** |
| **SPEAKER** | : | **Dr David Choo Kyojin**<br>**University of Michigan** |
| **DATE** | : | **Wednesday, 29 July 2020** |
| **TIME** | : | **10.00AM to 11.00AM** |
| **WEBINAR** | : | **Join Zoom Meeting**<br>**https://nus-sg.zoom.us/j/4156763801?pwd=cUdJUkFBZC85eVl5OEd5aHhrSDhNUT09**<br><br>**Meeting ID: 415 676 3801**<br>**Password: 335166** |

**ABSTRACT**

The lecture will explain the fundamental identities of a transistor as a switch and as a current source. MOSFETs will be the primary topic of discussion and square law model of MOSFETs will be explained. The key of the lecture is to understand different operating regions of a MOSFET and develop intuition of what it can achieve. A demonstrative circuit, a simple common-source amplifier, will be introduced to deepen the understanding of MOSFET operation. Also, operation of 'charge-injection cell' will be introduced as another demonstrative circuit.

**BIOGRAPHY**

Kyojin David Choo is a Research Fellow at University of Michigan, where he also had done his Ph.D in 2018. Before his Ph.D., he was with Samsung Electronics of South Korea, where he designed mobile/DSLRtarget image sensors, including award-winning sensor for Samsung NX1. He is a mixed-signal circuit and systems designer and his work focuses on building dense and energy efficient circuit solutions to enable Tiny Electronics. His research interests include sensor interfaces, energy converters, high-speed links/timing generators, and millimeter-scale integrated systems. Much of his recent researches are motivated by unique properties of charge-domain circuits and their interesting implications in various applications.