

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
FACULTY OF ENGINEERING
Website: <https://cde.nus.edu.sg/ece>

Area: Microelectronic Technologies and Devices

Host: Prof. Armin ABERLE (Main Supervisor) (Host)
Dr. LIN Fen (Co-supervisor)

TOPIC	:	Effect of Annealing on SnOx and Corresponding Perovskite Solar Cells
SPEAKER	:	Mr Yap Qi Jia Graduate Student, ECE Dept, NUS
DATE	:	Friday, 17 December 2021
TIME	:	2.00PM to 3.00PM
WEBINAR	:	Join Zoom Meeting https://nus-sg.zoom.us/j/81091944249?pwd=S3ZVb2NuWmpUdnF5WFJIT1dmRjlITZz09 Meeting ID: 810 9194 4249 Passcode: 802575

ABSTRACT

Tin oxide (SnOx) is widely used as an Electron Transport Layer in solar cells. Atomic layer deposited (ALD) SnOx thin films have seen increased interest recently due to their dense and conformal nature. However, as-deposited ALD SnOx is inherently insulative and thus can reduce the solar cell efficiency. Furthermore, some earlier works have shown that annealing can improve the conductivity of SnOx and the cell efficiency, but this was not investigated in detail. Hence, this work examines the effects of annealing of SnOx under different conditions (gas ambient, duration, temperature). It is shown that, although the SnOx resistance can be lowered significantly under oxidising ambient, the solar cell efficiency need not necessarily improve as desired.

BIOGRAPHY

YAP Qi Jia is a graduate student at ECE and the Solar Energy Research Institute of Singapore (SERIS) at NUS. He received his B.Eng. (Electrical) degree from NUS in 2010 and has previously served as a research engineer and a senior specialist at the Data Storage Institute (DSI) and the Institute of Materials Research and Engineering (IMRE), respectively, at the Agency of Science, Technology and Research (A*STAR).

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