



Royal University of Phnom Penh



The Graduate School of Science's

7th monthly Seminar

entitled "*Optical investigation of secondary phases in $\text{Cu}_2\text{ZnSn}(\text{S},\text{Se})_4$ solar cells*".



Date: **27**
November 2020

Time: 9:00 AM-10:00 AM

How? Online using **Zoom**
(The talk will be in English)

Who should attend?

Interested researchers, faculty members, and graduate students should attend. To attend, RUPPer or non-RUPPer can access the Google Form via the URL below for **FREE** registration before 25 Nov. 2020. URL: <https://bit.ly/3246F36>

Speaker: Dr. Dahyun Nam, Senior Engineer at Samsung Electronics, Korea

Moderator: Dr. Tharith Sriv

Short Bio.: Dr. Dahyun Nam is a Senior Engineer at Samsung Electronics. She received her B.S., M.S., and Ph.D. in Physics from Sogang University in 2010, 2012, and 2016, respectively. During her academic years, her research interest included spectroscopic studies of semiconductor materials, specializing in polycrystalline thin film solar cells. She joined a product failure analysis group in Samsung Electronics in 2016 and deals with nanoscopic failures in mobile application processor chips. See her publications via: <https://bit.ly/3oYalYG>

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Title: Optical investigation of secondary phases in $\text{Cu}_2\text{ZnSn}(\text{S},\text{Se})_4$ solar cells

Summary: $\text{Cu}_2\text{ZnSn}(\text{S},\text{Se})_4$ (CZTSSe) is a p-type semiconductor which has been developed as an absorber layer of polycrystalline thin film solar cells. Generally, Cu-poor and Zn-rich compositions tend to give the highest solar conversion efficiencies. However, while making thin films to have such a precise composition, secondary phases are easily formed throughout solar cells. In this study, Selenium clusters, metal sulfates, and ZnS are located using Raman spectroscopy. Impact of such secondary phases to the cell efficiency and how they could be eliminated will be discussed.

Short Bio.: Dr. Dahyun Nam is a Senior Engineer at Samsung Electronics. She received her B.S., M.S., and Ph.D. in physics from Sogang University in 2010, 2012, and 2016, respectively. During her academic years, her research interest included spectroscopic studies of semiconductor materials, specializing in polycrystalline thin film solar cells. She joined a product failure analysis group in Samsung Electronics in 2016 and deals with nanoscopic failures in mobile application processor chips.