Talk Summary:

Title: Micro-Raman and PL Spectroscopy for Thin-Film Solar Cells: CIGS, CZTS, CZTSe and CZTSSe solar cells

Recently, micro-Raman spectroscopy (μRS) and micro-Photoluminescence spectroscopy (μPL) gained significant interests in the characterization of microscopic structures in Si-based solar cells and other thin-film solar cells. In this talk, the speaker will share an insightful knowledge and skills of optical characterization of CIGS, CZTS, CZTSe, and CZTSSe solar cells by using μRS and μPL. The speaker will start with an introduction to the above-mentioned solar cell structures, and then discuss the spectroscopic techniques before giving insights into how these techniques are used to study the optoelectronic properties of CIGS, CZTS, CZTSe and CZTSSe solar cells based on his experience with Raman and PL spectroscopy of these thin-film solar cells.

Speaker's Short Bio.:

Tharith Sriv received a Master of Engineering (M. Eng.) in Electrical and Information Engineering from the King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand, and a PhD in Physics from Sogang University (SU), Seoul, Korea, in 2005 and 2020, respectively.

Before pursuing his PhD, Tharith has been nominated by the MoEYS to work as a research advisor, trainer, and leader of the national gifted high school students to regional and international competitions such as the SEAMEO Search for Young Scientists (SSYS), International Physics Olympiad (IPhO), Asian Physics Olympiad (APhO), and International Olympiad on Astronomy and Astrophysics (IOAA).

Currently, Dr. Tharith Sriv is with the Royal University of Phnom Penh (RUPP), Cambodia, where he teaches several advanced courses aside from being the Program Coordinator of the M.Sc. in Physics Program, and the Physics Coordinator in Sweden-RUPP Bilateral Program. Recently, Tharith has taken more responsibility as the focal person for RUPP-SU Partnership Program, a program to improve teaching and learning that is supported by the Royal Government of Cambodia through the Higher Education Improvement Project (HEIP).

Dr. Tharith Sriv is the principal investigator (PI) of a research project (HEIP-RUPP-SGA#09) on "Synthesis, characterization, device fabrications, and applications of nanomaterials and 2D-materials" that is supported by the Royal Government of Cambodia and a co-investigator of CREST-OR project, another project that is supported by the British Engineering and Physical Sciences Research Council, with funding from the Global Challenges Research Fund. He has authored and co-authored several research papers in peer-reviewed journals in the fields of condensed matter experiment, renewable energy, and wireless communication and mobile computing.

Dr. Tharith Sriv is an advisory board member of the National Council of Science, Technology and Innovation.