Workshop & Interactive Session on "Design optimization of solar cell in Solar Cell Capacitance Software"

Centre for Advanced Electronics & Photovoltaic Engineering offers a 1-day workshop on **Design optimization of solar cell in Solar Cell Capacitance Software** for all of its graduate students who are entering into research phase from FALL 2019. Numerical modeling or analysis is a computer simulation program which uses the mathematical model for the implementation of a physical system. It is an essential tool for better understanding of the working parameters of any device. Numerical analysis can play a significant role in the manufacturing and fabrication of efficiently working semiconductors based photovoltaic devices. For design engineers and researchers, the highest priority job of numerical modeling techniques implementation is the integration of real-life problem with virtual machine environment because of finding the optimum and efficient ways for solving a complex problem. The precious time is saved due to performing the real design problem in computer-based tests environments without physical or practical implementation, so research institutions and universities emphasize computer-based learning techniques. For the numerical modeling of solar cells, physical parameters of material are taken as input for the simulation software. To translate the practical or real device $J-V$ characteristics and functional parameters such as power conversion efficiency, fill factor, open circuit voltage and short circuit current in device modeling, it is mandatory to take experimental data. Numerical simulation provides a better and easier way to understand the device behavior.

2nd December 2019

Timing:
11:00 am – 4:00 pm

Venue:
Centre for Advanced Electronics & Photovoltaic Engineering (CAEPE). International Islamic University, H-10, Islamabad

Themes

- Introduction to SCAPS
- Implementation of simple solar cell structure in SCAPS
- Numerical modeling for the efficiency enhancement of thin film solar cell in SCAPS
- Design optimization of solar cell structure in SCAPS
- Validation of experimental solar cell results in SCAPS

Who Should Attend?

Faculty members and research students of MS/PhD from IIUI who are entering into research phase from FALL 2019.

Experts/Resource Persons

- Dr. Faisal Baig, FUUAST Islamabad
- Dr. Yousaf Hameed, FUUAST Islamabad

Focal Points/ Organizers

- Prof. Dr. Ahmed Shuja Syed
- Engr. Shoaib Alam
- Engr. Khalid Usman

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