



**Future Trend of the Optoelectronic Device: Past, Current, and Future Perspective. How can Electrical & Electronic Engineering Cope with the Changes?**

by Ir. Wong Jian Choon

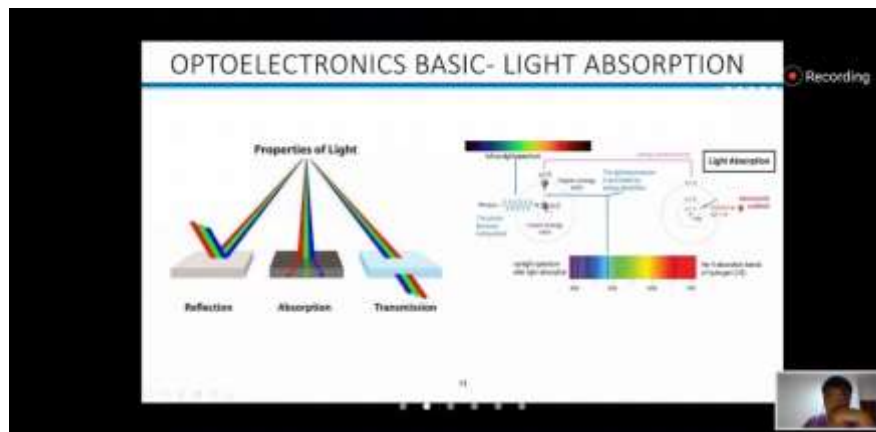
Ir. Wong Jian Choon is currently a committee member in Electronic Engineering Technical Division (eETD).

The Electronic Engineering Technical Division (eETD) has successfully organized an evening webinar talk on “Future Trend of the Optoelectronic Device: Past, Current, and Future Perspective. How can Electrical & Electronic Engineering Cope with the Changes?” via Online Platform with speaker Prof Dr Tan Chee Leong from Nanjing University of Post & Telecommunication, Nanjing, China.

Speaker of the webinar is Prof. Dr. Tan Chee Leong, who is a Malaysian and currently professor in the university in China. He is the expert in the Photonic and Optoelectronic field. The webinar was attended by 15 attendants, 1 modulator and Prof. Dr. Tan.



Prof. Dr. Tan started his presentation by introducing the brief history of semiconductor development, then the history and direction of the optoelectronic in worldwide. The optoelectronic component industry has growth rapidly recently due to few main reasons, which are the increased use of infrared components in consumer electronics & automobiles, longer life span with lower power consumption, demand for improved imaging & optical sensing solution in healthcare. For the past 15 years, there are 4 Physics Nobel winners from this optoelectronic field. He has made a comparison for both electronics and optoelectronics in ICT, which one is transmitting the electron while another one is transmitting the proton. With the comparison, we can have better understanding on the pros and cons for both technologies, and we believe that the optoelectronics will have advantage in term of transmission speed, power consumption although the biggest drawback is still the cost.



### Presentation Slides for the Webinar

In the same time, Prof. Dr. Tan has also introduced on the material selection for the electronic and optoelectronic. The most commonly used material is silicon (Si), and currently the silicon based electronic and optoelectronic has met the optimum design and hardly to have further breakthrough. This is because the silicon has indirect energy bandgap (bigger power lose) and has the biggest problem with the thermal dissipation issue. Prof. Dr. Tan received some of questions from participants such as the research environment in the optoelectronic field in Malaysia, the worldwide leading nation in optoelectronic and etc.



It was indeed a fruitful and informative presentation by Prof. Dr. Tan and at the end of the session, a group photo on screen was taken prior to closing of webinar.