

# ICOEO-2020 Report

The International Congress on Optics, Electronics, and Optoelectronics 2020 (ICOEO-2020) took place from Nov. 4-6, 2020 in Chengdu, China. The congress was run under the auspices of ISTCI and operated by Four Leaf Clover Event. A total of approx. 120 participants from China attended the conference and 7 speakers are unable to attend in person due to travel restrictions, so sent the video of the speech instead.



**ICOEO-2020** mainly focuses on current hot topics of Laser, Optics and Photonics, Electronic Components and Technology, and Optoelectronic Devices and Integration. The program was structured in 14 parallel sessions to give room for the 80+ contributions that were selected by the Scientific Advisory Committee for oral presentations in the fields of: Preparation and Application of Optical Materials; Breaking Research of Optical Technology; Laser Technology and Application; Terahertz Technology; Optical Communications Technology; Optics in Health Care and Biomedical; Electronic Materials; Thin Films and Devices; Piezoelectrics, Ferroelectrics and Pyroelectrics Materials and Technology; Semiconductor Materials and Technology; Optoelectronic Materials; Optical Sensor & Fiber Optic Sensor; Solar Cells.

## The Keynote Forum

ICOEO-2020 was opened by keynote speakers Mohamad Sawan, Hong Gao, Chaoyuan Jin, Wenbin Dou, Naosheng Qiao, Dieter Bimberg who brought us a variety of topics. Because the Covid-19 caused travel inconvenience, our Honorary Chairman, Dr. Dieter Bimberg specially sent a video to express congratulations to the conference.





**The Parallel Sessions**

14 Parallel Sessions surprised us deeply. Dr. Haiding Sun from university of Science and Technology of China in China discussed the recent progress on the development high efficient AlGa<sub>N</sub>-based optoelectronics, mainly on the high efficient deep-ultraviolet light-emitting diodes grown on large misoriented sapphire substrates, ultraviolet lasers in the form of graded index separated confinement heterostructure (GRIN SCH), as well as the high photoresponsive solar-blind photodetectors in the form of AlGa<sub>N</sub>-based nanowires. Dr. Jianhong Yang, from Institute of Microelectronics, School of Physical Science and Technology, Lanzhou University, has renovated the p-n junction theory in a self-consistent manner by introducing the concept of excess majority carriers. An original design of grazing incidence X-ray spectrometer was reported which could be further implemented to develop the high-resolution spectral diagnostics for Shanghai X-ray Free Electron Laser Project by Dr. Bin Li at Shanghai Advanced Research Institute, Chinese Academy of Sciences in China. Dr. Zhiyuan Zhu from Southwest University, China said at ICOEO-2020: the energy harvesting property and physical-chemical properties detection of food-based microsystem, which provides novel solution to energy problem and forms a fast, simple, flexible, efficient, low-cost, self-powered, environmentally friendly and degradable multifunctional food physical-chemical detection method. Dr. Ji Wang from Piezoelectric Device Laboratory of Ningbo University in China, had a speech on the development of quartz crystal resonators and hope the analysis will be helpful for essential and optimal design parameters for the development of quartz crystal resonators.





### Young Scientist Forum

The event is an open forum specially dedicated for young investigations (i.e. students, PhD candidates, and early stage post docs) working in all fields in the broader area of Optics, Electronics, and Optoelectronics.



### More Picture

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### Paper Publication

The submitted papers have been published in full text in a periodical on IOP Publishing's website at: <https://iopscience.iop.org/issue/1742-6596/1775/1> via *Journal of Physics: Conference Series*, ISSN Web: 1742-6696. IOP Publishing is a subsidiary of the Institute of Physics.