Recently, the medical technology of Taiwan is growing rapidly. And the on-body medical electronic technology becomes the main development trend. So today, we ´100% life´ take you to the 2014 Biomedical Electronics EMC workshop, which is an interdisciplinary technical seminar of medical and electronic domains.

Taiwan's strengths in the electronic technology and the medical field are world-renowned. In order to allow the industry to fully grasp the direction of the development, staying in the cutting edge of the technology, enterprises and IEEE EMC electromagnetic Taipei, and the academic alliances in electromagnetic domain, have co-organized this seminar, combining the developments in electronic engineering and medical science.

Prof. Dingbin LIN, from Department of Engineering, National Taipei University of Technology

‘The main objective of this seminar is to organize a communication platform for the relevant industries and professors preforming relevant research. So, this time we focus on the communication in biomedical technology related with EM discipline. The representative for the academia is the Taiwan electromagnetic academic alliance. It is a communication platform, formed by hundreds of experts, professors and outstanding students from eight well-known universities together with a number of companies. It provides long-term academic perceptions and research. And it is an important cornerstone for the electromagnetic industry in the development of biomedical technology.’

Prof. Zonglin WU, from Institute of Telecommunications Engineering, National Taipei University of Technology

‘Our aim is to use the platform formed by electromagnetic academia alliances, to share the latest research results and new technologies between academia and industry. This can in term further identify the future research directions and topics, thus promoting the cooperation between industry and academia. The activities are supported by the experienced manufacturer with long-term investigations in the field of radio frequency and electronics. Using cross international corporation resources, it invites the leading countries in the electromagnetic and medical field. It also provides technical consulting for cooperation between industry and academia. Its purpose is to contribute to the science development in Taiwan.’

Yubin ZHANG, Chairman of the board, Event organizer

‘For more than 10 years, we have been investigated in the related cutting edge fields, such as antenna module and measurement certification laboratory, which are cooperated with academia and industry. So now, we integrated the international resources with the great universities and professors in Taiwan. We hope to help and improve the competition capabilities of Taiwan in biomedical and EM field in the near future.’

EM technology has been applied broadly and played an important role in various areas, such as power transmission, semiconductor, communication and biomedical technologies. Therefore it will also face numerous technical challenges in the future, which has been discussed during the seminar.

Jialun TANG, RF technology officer, Leading research and development center

‘Nowadays, microwave technology has been widely applied in the biomedical field. One of applications is MRI, which uses the microwave exposure to construct and display the image of the body. Other popular market applications are on-body health controller, and medical electronic devices. Therefore, it will be necessary to evaluate the compatibility of these devices while operating on body. Take one previous IPhone design as an example, the signal would attenuate due to the influence of the hands. I suppose this kind of evaluation will be obviously important for the biomedical and on-body devices.’

Furthermore, in the EM environment, the evaluation of the safety and the efficiency of the medical devices was also a hot topic in the seminar. Since Taiwan was the first place in Asia to adopt the EM exposure standard, its developments in the EM field also have gathered international expectation.

Zhihui YANG, Vice general manager, Equipment Division

‘Taiwan has applied this standard comparably earlier, for instance, with marking the unsafe level of EM exposure on the phone. This provides the consumers a reference for choosing wireless communication devices. So Taiwan is in a leading position in the communication and electronic technology. So we encourage people to investigate not only at the application level but also at the basic science level.’

Through such a seminar, attendants can develop a much clearer vision about the future direction of biomedical engineering. It also provides a great interation opportunity for basic science and industry. This could open more possibilities in the biomedical technology, and increase the competition capability of Taiwan.