

Biomedical Division

PSDAS CPD Activity – Technical Seminar on Global Application of Medical Polycarbonate & Laser Micro-machining for Medical Devices Manufacturing

Miss Christine KM HO

Mr Bryan MK SO

A PSDAS CPD seminar on “Global Application of Medical Polycarbonate & Laser Micro-machining for Medical Devices Manufacturing” was organized by the Biomedical Division on 20 June 2008 at Hong Kong Productivity Council. We were glad to have Mr Michael WONG from Bayer MaterialScience Limited and Mr William YIM from Sanwa Technology Limited to be the speakers.

To mark the beginning of the seminar, Mr Michael WONG introduced the market trends of plastics applications in medical device manufacturing. Some sterilization methods for medical plastics, including ethylene oxide (EtO) sterilization, e-beam sterilization and gamma ray sterilization were introduced. However, e-beam and gamma ray usually discolored the plastics irreversibly during sterilization. The presentation was then focused on the medical application of polycarbonate that resisting the discoloration effect brought by e-beam and gamma ray. Mr WONG shared his experience on the selection and application of medical plastics through several case studies.

In the second part of the seminar, Mr William YIM brought us the application of laser micro-machining. He firstly gave an introduction on laser and the principle of laser micro-machining, in which picosecond (or even femtosecond) laser was employed to give an ultra precise machining. It was a gentle machining process as the heat affected zone was much smaller than those encountered upon nanosecond laser machining. The invention of helical drilling head laser could increase the aspect ratio from 1:2 to up to 1:40. Some amazing case studies of picosecond laser application on metal, ceramics and polymer materials were shared with the participants. To be concluded, picosecond laser micro-machining was gaining importance as it was more gentle and thermal damage was minimized. It could be a very effective tool for medical manufacturing and research and development.

The activity was adjourned by a question-and-answer session and souvenirs were presented to the speakers by Mr Bryan SO, the Honorary Secretary of the Biomedical

Division for their very interesting talk and up-to-date information on medical device manufacturing.



Mr Michael WONG was delivering a presentation on medical grade plastics to the participants.



Presentation of a souvenir to the speaker (from left to right: Mr William YIM, Mr Bryan SO).