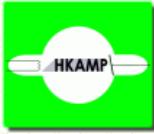




香港輻射防護學會

*Hong Kong Radiation Protection Society*



Hong Kong Association of Medical Physics

香港醫學物理學會

## **Scientific Seminars**

### **1) Automatic Radiation Treatment Planning in the Radiotherapy Chain**

**Abstract:** Radiation treatment planning is one of the most time-consuming and laborious components in the radiotherapy chain for cancer treatment. Automating such planning processes can not only reduce the planning time, but also reduce the human variation due to individual biases. Over the years, a great amount of effort was put in automating the radiation treatment planning partially and completely. These included developments of auto-contouring, treatment planning script/template, clinical knowledge database, optimization algorithm, artificial intelligence and so on. To date, many studies on treatment planning comparisons were carried out to compare the plans dosimetry produced with and without auto-planning. Promising results were obtained showing planning automation can improve the overall treatment quality by providing high-quality and consistent plans. Moreover, it is proved that auto-planning can increase the productivity of the dosimetrist working in the radiotherapy chain. In this talk, brief reviews of the background of forward and inverse treatment planning will be given, followed by basic concepts regarding auto-planning such as photon beam angle and collimator optimization. I will also go through the basic procedures to carry out auto-planning, and introduce the related routine in a commercial treatment planning system as an example. Finally, I will discuss its challenges in future development.

## **2) Radiation Safety and Bunker design in a Cancer Centre in Canada**

**Abstract:** Radiation staff working in radiotherapy in a cancer centre are required to have education in radiation safety. This includes understanding the function and role of different regulatory agencies, radiation program issues and radiation safety practice. Radiation staff are also required to identify a radiation safety officer with specific responsibilities. Routine radiation safety training will be provided to all radiation staff with examination, to demonstrate the staff in the cancer centre are safe, from a radiation exposure risk/detriment perspective. In this talk, I will outline the basic radiation protection process for radiation staff working in a cancer centre in Canada. Radiation safety issues, such as radiation protection units, risk versus benefit, ALARA principle, comparative risks, regulatory agencies, recommended limits and radiation monitoring will be explored. The second part of the talk will explain how to design a bunker for a medical linear accelerator. A doorless entry system for radiotherapy room using maze is introduced to enhance the patient access, safety and throughput. Results of radiation survey regarding such a bunker will be reviewed.

**Speakers:** Dr. James Chow, Department of Medical Physics, Princess Margaret Cancer Centre, University Health Network, Toronto

**Date/Time:** 20<sup>th</sup> June 2019 (Thursday), registration 18:30, lecture 18:45 – 20:15

**Venue:** Conference Hall of the Hong Kong Observatory Headquarters, 134A, Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong.

**Language:** English

**Registration:** There is no registration fee. Reservation can be made by using the link <http://www.hkrps.org/registration/20190620.php> with indication whether a Certificate of Attendance is required. No confirmation of registration will be given. Administration fee of \$50 would be charged for non-HKRPS members requesting a CPD certificate.

**Enquiry:** Raymond TSANG, Secretary HKRPS  
Email [enquire@hkrps.org](mailto:enquire@hkrps.org)