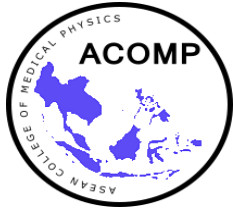


ACOMP Courses planned for 2021



1. Title: Radiobiology in the era of precision medicine

Tentative date: TBC (tentative March 2021)

Duration: 8-10 hours of online course (2-2.5 hours/day)

Coordinator: Chai Hong Yeong and Aik Hao Ng

Lecturers: Eva Bezak, Aik Hao Ng, Lau Fen Nee, Jasmine Lim

Synopsis: The course aims to provide basic understanding of radiobiology principles, its clinical applications and implementations in radiation therapy. It will address the molecular and cellular responses to radiation-induced damage and factors that affect cell survival curve. Biological basis for fractionation of radiotherapy and dose-response relationships in the clinic as well as other approaches to improve radiotherapy will be covered in depth, which include treatment interruption and retreatment issues, targeting hypoxia, biological modifiers and combined radiotherapy/chemotherapy. This course also includes current understanding of radiobiology in radionuclide therapy, latest development of the biomarkers and its clinical applications in precision medicine. This course will advance the knowledge of medical physicists, radiation oncologists, nuclear medicine physicians and other related professionals with radiobiology key points that might be useful and practical in their clinical routine while bridges the gap for the application of radiobiology principles in state-of-art theranostic procedures.

2. Title: PET/CT: From conception, site planning, commissioning and integration to healthcare.

Tentative date: 22 April 2021

Duration: 3 hr

Coordinator: S Somanesan

Lecturers: Tay young Soon, Jasper Singh Chaal, Somanesan, Lim Shi Meei.

Synopsis: The necessary discussions, specification writing, planning and site identification besides the shielding calculations are preliminary requirements to setup and offer a PETCT service. This is followed by the commissioning and acceptance testing that confirms the item purchased indeed meets stated specifications. This is followed closely by the requirements such as radiation safety training necessary to deliver a PETCT service. This course will advance the knowledge and skill set of medical physicist from all over on setting up and running a state of the art PET/CT service.

3. Title: Modelling in Molecular Radiotherapy/Imaging.

Tentative date: April 2021

Duration: 2 days

Coordinator: Deni Hardiansyah (UI, Indonesia)

Lecturers: Gerhard Glatting (Ulm University, Germany), Ali A. Attarwala (Bruker GmbH, Germany), Manuel Bardies (CRCT, France)*, Yixuan Zou (Genentech, USA), Deni Hardiansyah (UI, Indonesia)

Synopsis: The calculation of the absorbed dose in molecular radiotherapy based on the MIRD scheme relies on the determination of the time-integrated activity coefficients (TIACs) and Svalues. An adequate knowledge in modeling is needed to analyze and calculate individual values of the TIACs and Svalues from individual patients. Several modeling techniques that oftenly used in molecular radiotherapy are the Physiologically-based Pharmacokinetic (PBPK) model, Monte Carlo simulations and uncertainty/variability analysis. Modelling also plays an important role in molecular imaging. This course will advance the knowledge and skill of the medical physicist and professionals on the modeling techniques in molecular radiotherapy/Imaging.

4. Title: A hands-on course on Implementing CBCT-based IGRT

Tentative Date: Q3 2021

Duration: 12 hours of face-to-face learning (in 2-3 sessions) plus 8 hours of self-learning time

Coordinator: Hafiz M Zin, Malaysia

Lecturers: to be confirmed

Synopsis: The course is aimed at medical physicists and all other professionals in radiotherapy who are involved in the clinical practice of image guided radiotherapy (IGRT) with a dedicated focus on CBCT-based IGRT. The course will improve the fundamental understanding of the basis of implementation of CBCT-based IGRT and will provide relevant skills required to successfully implement the technology in clinical practice. The course would benefit attendance by all the professionals involved in the treatment chain: oncologist: medical physicists and radiation therapist. The course will be delivered through lectures, hands-on practice, problem-based learning and quiz. The contentment of the course includes Uncertainties in Radiotherapy, CBCT technology for IGRT, Quality Assurance of CBCT and Planning target volume (PTV) margin calculation.

KH Ng, ACOMP Director

Dec 6 2020