Hong Kong Institution of Physicists in Medicine
香港醫學物理學院

Certificate Course on
Introduction to Physics of MR Imaging

Course Content

1. MRI Instrumentation and Basic Safety

Introduction to main components of MRI scanner (magnet, gradient and RF systems) and to discuss how the operation of these systems has a direct relationship with MRI safety.

2. Practical MRI Safety

In this part of the lecture, we shall further explore MRI safety from a clinical point of view. The theory behind RF heating will be explained to aid our understanding why some implants heat-up while others don't when exposed to similar MRI conditions. MRI safety recommendations by the ACR and contrast agents' safety in MRI will also be discussed.

3. MRI Physics

Theory on the origin of MR signal will be explained. The mechanisms of spin relaxation will be discussed to show how this phenomenon leads to image contrast in MR imaging. Basic principles of spin-echo and gradient echo will be given.

4. Theory of Image Formation

In this lecture, we will discuss how an image is formed in the imaging process. Concepts such as slice selection, phase encoding and frequency encoding will be explained.

5. Basic MRI Sequences

Commonly used pulse sequences in MRI will be discussed as well as the main types of image contrast derived from these pulse sequences will be explored. Technical terms such as TR and TE and how these parameters relate to image contrast in MRI will be explained.

6. Advanced MRI Sequences

Here we will further explore pulse sequences used in MRI that allow clinicians to derived important physiological information to aid diagnosis. How echo-planar imaging is used to obtain functional information in the imaging process will be discussed.

Date, Time and Venue:

The course will be held on:

Date	Time
18 November 2017	2:00 pm - 5:00 pm
25 November 2017	2:00 pm - 5:00 pm

Duration of Course:
6 hours lectures, Q&A and examination

Venue:
Conference Room 801, 8/F, Li Shu Fan Block, Hong Kong Sanatorium & Hospital, Happy Valley, Hong Kong

Speaker
David Yeung, Ph.D.
Physicist
Medical Physics Unit
Prince of Wales Hospital

Target Participants:
HKIPM member only

Assessment:
Open book MCQ examination at 5:00pm on 25 November 2017

Accreditation:
6 CPD credits by Hong Kong Institution of Physicists in Medicine
6 CPD credits by Hong Kong Radiographer's Board

Course Award:
A certificate of completion of the course "Introduction to Physics of MR Imaging" will be issued to a participant who has passed the examination.
An attendance certificate will be issued to a participant who has failed the examination.

Teaching Medium
The course will be conducted in English, and the written examination will be in English.

Tuition Fee*:
HKD 240

*A 50% discount will be given to trainees from the hospital that provide venue for training.

Enrollment:
Completed registration form shall be sent with a cheque for the tuition fee to Ms. Ruby Ho, Secretary of the Hong Kong Institution of Physicist in Medicine at the address give below. The cheque should be crossed and made payable to "Hong Kong Institution of Physicists in Medicine". Full payment should be made at registration and no refund for withdrawal will be entertained due to any circumstances.

Ms. Ruby Ho
Medical Physics & Research Department,
8/F, Li Shu Fan Block,
Hong Kong Sanatorium & Hospital,
Happy Valley,
Hong Kong.

Closing Date for Application:
Friday, 10 November 2017