

Program of 11th GCB Winter School for Medical Physics

On Site

<Tentative>

As of 2024/12/18

Monday, February 17					
Chapter	Japan Standard Time		Title	Lecturer	Place
-	8:30 AM	9:00 AM	Introduction	Prof. Yuji Kuge	EN5-205
1	9:00 AM	9:45 AM	Overview of Diagnostic Imaging and Medical AI	Prof. Kohsuke Kudo	
			15 min. break		
2	10:00 AM	10:45 AM	Interaction of therapeutic radiations with matter	Dr. Sodai Tanaka	EN4-205
			15 min. break		
3	11:00 AM	11:45 AM	Boron Neutron Capture Therapy and its measurement device development	Prof. Masayori Ishikawa	
			75 min. break		
4	1:00 PM	1:45 PM	Introduction to Geant4 for particle therapy	Dr. Kenneth Lee Sutherland	
			15 min. break		
5	2:00 PM	2:45 PM	Patient setup and image guidance technique in proton therapy	Dr. Seishin Takao	EN5-205
			15 min. break		
6	3:00 PM	3:45 PM	Overview of radiation therapy (Therapeutic Window in New Era)	Prof. Hidefumi Aoyama	
Tuesday, February 18					
Chapter	Japan Standard Time		Title	Lecturer	Place
7	9:00 AM	9:45 AM	Clinical Implementation of an AI-augmented Autonomous Treatment Planning for Modern Radiation Therapy	Dr. Yong Yang	EN5-205
			15 min. break		
8	10:00 AM	10:45 AM	Current radiotherapy approach for head and neck and skin cancer	Dr. Michael Gensheimer	
			15 min. break		
9	11:00 AM	11:45 AM	Medical Physics and Imaging for Precision Oncology	Prof. Lei Xing	
			75 min. break		
10	1:00 PM	1:45 PM	Electrical Conductivity properties of tissues and applications to biomedical research	Dr. Rosalind Sadleir	
			15 min. break		
11	2:00 PM	2:45 PM	Magnetic Resonance Imaging approaches to measuring electromagnetic properties	Dr. Rosalind Sadleir	
			15 min. break		
12,13	3:00 PM	4:30 PM	Hands-on Practical Training: 4DRT	Dr. Naoki Miyamoto Dr. Kohei Yokokawa	EN4-205
Wednesday, February 19					
Chapter	Japan Standard Time		Title	Lecturer	Place
14	9:00 AM	9:45 AM	Hands-on Practical Training: QA	Dr. Takahiro Kanehira	EN4-205
			10 min. break		
15	9:55 AM	10:40 AM	Deep learning for advanced radiation therapy	Dr. Yusuke Nomura	
			10 min. break		
16	10:50 AM	11:35 AM	Role of radiotherapy in cancer treatment	Dr. Kentaro Nishioka	
			10 min. break		
17	11:45 AM	12:30 PM	Clinical application of proton beam therapy	Dr. Takayuki Hashimoto	
Thursday, February 20					
Chapter	Japan Standard Time		Title	Lecturer	Place
18,19	1:00 PM	2:30 PM	Dose calculation algorithms for spot scanning proton therapy Hands-on Practical Training: Treatment Planning	Dr. Taeko Matsuura Dr. Seishin Takao	EN4-205
			30 min. break		
20	3:00 PM	3:45 PM	Introduction to AI with Keras (GANs)	Dr. Kenneth Lee Sutherland	EN5-205
			15 min. break		
21	4:00 PM	4:45 PM	Real-time image-guided radiation therapy	Dr. Naoki Miyamoto	EN4-205
			15 min. break		
22	5:00 PM	5:45 PM	AI for MR-guided adaptive radiation therapy	Dr. Takaaki Yoshimura	EN5-205
			15 min. break		
23	6:00 PM	6:45 PM	Facility Tour	Dr. Takahiro Kanehira	
Friday, February 21					
Chapter	Japan Standard Time		Title	Lecturer	Place
24	9:00 AM	9:45 AM	Fractionation based on dose distribution and classical radiation biology	Prof. Masahiro Mizuta	EN4-205
			15 min. break		
25	10:00 AM	10:45 AM	Theranostics in Nuclear Medicine	Dr. Shiro Watanabe	EN5-205
			15 min. break		
26	11:00 AM	11:45 AM	Particle beam therapy equipment: towards ultra-high dose rate irradiation	Dr. Takamichi Aoki	EN4-205
			75 min. break		
27,28	1:00 PM	2:30 PM	Presentation by Winter School Participants	Prof. Masayori Ishikawa	EN5-205
			15 min. break		
29	2:45 PM	3:30 PM	Clinical and biological evaluation metrics and biomarker in silico in radiation oncology	Dr. Keiji Kobashi	
			15 min. break		
30	3:45 PM	4:30 PM	Self-evaluation & Certificate	Prof. Yuji Kuge	

* Schedule is subject to change.

Joint lectures with Molecular Biomedical Science and Diagnosis
 [Place] EN4-205 is on the fourth floor of the Northeast Research Building, School of Medicine
 EN5-205 is on the fifth floor of the Northeast Research Building, School of Medicine